

Illinois Official Reports

Appellate Court

Krumwiede v. Tremco, Inc., 2020 IL App (4th) 180434

Appellate Court Caption	JEFF KRUMWIEDE, Special Administrator of the Estate of Willard Krumwiede, Deceased, and RUTH KRUMWIEDE, Individually, Plaintiffs-Appellees, v. TREMCO, INC., Defendant-Appellant.
District & No.	Fourth District No. 4-18-0434
Filed	January 21, 2020
Decision Under Review	Appeal from the Circuit Court of McLean County, No. 13-L-79; the Hon. Rebecca S. Foley, Judge, presiding.
Judgment	Reversed.
Counsel on Appeal	Brad A. Elward, Christopher P. Larson, and Cathy A. Molchin, of Heyl, Royster, Voelker & Allen, of Peoria, and Michael T. Reagan, of Ottawa, for appellant. Chip Corwin and James Wylder, of Wylder Corwin Kelly, LLP, of Bloomington, for appellees.
Panel	JUSTICE HARRIS delivered the judgment of the court, with opinion. Presiding Justice Steigmann and Justice Turner concurred in the judgment and opinion.

OPINION

¶ 1 Plaintiffs—Jeff Krumwiede, the special administrator of the estate of decedent Willard Krumwiede, and Ruth Krumwiede, decedent’s wife—brought a cause of action against defendant—Tremco, Inc. (Tremco)—raising wrongful death, survival, and loss of consortium claims. They alleged that, while working as a window glazier, decedent used asbestos-containing products manufactured by Tremco, which caused decedent to develop mesothelioma and resulted in his death. Following a trial, the jury found in favor of plaintiffs. Tremco appeals, arguing it is entitled to a judgment notwithstanding the verdict (judgment *n.o.v.*) or a new trial. Alternatively, it argues it is entitled to a setoff for amounts paid in prior settlements with other defendants. We reverse.

¶ 2 I. BACKGROUND

¶ 3 In April 2013, plaintiffs filed their complaint against Tremco and more than 50 other defendants, alleging defendants manufactured and sold asbestos-containing products that decedent used or was exposed to while working as a window glazier. Plaintiffs alleged that defendants’ products gave off dust, decedent was exposed to that dust, and decedent contracted mesothelioma as a result of his exposure. Plaintiffs asserted that before manufacturing the products at issue, defendants knew or should have known “that exposure to asbestos caused pulmonary fibrosis and malignancies.” They alleged that defendants were negligent because defendants

- “a) failed to warn that exposure to asbestos fibers caused serious disease and death;
- b) failed to warn that exposure to asbestos fibers caused pulmonary fibrosis;
- c) failed to warn that exposure to asbestos fibers caused malignancies;
- d) failed to provide instruction as to safe methods, if any existed, of handling and processing asbestos containing products.”

Plaintiffs further asserted that decedent died on September 26, 2012, and that defendants’ negligence was a proximate cause of his injury and death.

¶ 4 In October 2017, the trial court conducted a jury trial. At the time of trial, Tremco remained the sole defendant in the case, and it is the only defendant at issue on appeal. With respect to Tremco, plaintiffs complained of decedent’s exposure to two asbestos-containing products, “440 Tape” and “Mono caulk.” Both products were manufactured using chrysotile-type asbestos fibers.

¶ 5 Evidence showed decedent worked as a window glazier, installing glass into wood or aluminum frames, from approximately the mid-1950s until his retirement in the early 1990s. On September 26, 2012, decedent passed away at the age of 81. An autopsy showed he had “malignant mesothelioma consistent with industrial exposure of asbestos.” Asbestos fibers were “identified within the lungs, microscopically.”

¶ 6 Plaintiffs presented the testimony of two of decedent’s coworkers, Dennis Schultz and Richard Darr. Both men worked as window glaziers with decedent in the 1960s and 1970s and testified that they frequently used Tremco’s Mono caulk and 440 Tape. Schultz asserted those products were used “[j]ust about every day” in their line of work. On a large job, he would use hundreds of tubes of Mono caulk and hundreds of feet of 440 Tape. He acknowledged using products from manufacturers other than Tremco but asserted that Tremco’s products were the

“most specked [*sic*] product[s] out there by architects.” Darr described the 440 Tape as the “primary tape” that he and decedent used.

¶ 7 The 440 Tape arrived at job sites packaged in a cardboard box with multiple rolls of tape per box. The tape was described as “tacky,” and Darr testified it would stick to his hands. The 440 Tape had to be cut when applied to a window. Tremco’s Mono caulk was applied with a caulking gun. It also arrived in boxes with multiple tubes of caulk in each box. Schultz testified that on a four by five window, he would use a quarter to half a tube of caulk. Workers used their fingers to “smooth *** off” the caulk and razors to “scrape” it. The Mono caulk would get on rags and the workers’ clothing and hands.

¶ 8 Schultz denied observing any visible dust when cutting the 440 Tape or using the Mono caulk. While working with decedent, they worked in locations where insulators were present and wrapping pipes in their vicinity or general area. Schultz did not know if the insulators created any dust. Darr testified that he never saw any visible dust coming off of the Mono caulk or when cutting the 440 Tape. However, there were times when he and decedent had to remove the Mono caulk that had dried using a chisel. He stated they “could have run up some [visible] dust once in a while” but he did not remember.

¶ 9 Schultz testified that in the years he and decedent used Tremco’s 440 Tape and Mono caulk, he did not see “anything on the product[s] indicating that asbestos was one of the ingredients.” He also did not recall ever receiving any information from Tremco that asbestos was harmful and that it could cause asbestosis, lung cancer, or mesothelioma. Darr testified he did not pay attention to what Tremco’s products were made of and never saw information on the packaging indicating the products contained materials that were harmful or could cause lung disease. He first learned Tremco’s products contained asbestos in the 1990s.

¶ 10 Plaintiffs called Steven Milano, Tremco’s corporate representative with respect to asbestos litigation, as an adverse witness. Beginning in 1995, Milano worked on and off for Tremco as a staff chemist. In March 2016, he began working as Tremco’s director of research and development for construction, sealants, and waterproofing. Milano testified he reviewed more than 14,000 pages of documents concerning Tremco’s historical use of asbestos as well as the testimony of its previous corporate representatives on the subject. He agreed he was “the most knowledgeable person” regarding the subject of Tremco’s asbestos-containing products.

¶ 11 According to Milano, “all asbestos containing formulas” were removed from Tremco’s product offerings before he began working for Tremco in 1995. In 2006, Tremco’s legal counsel asked Milano to “mix up a batch of caulk” and “a batch of tape.” The tape was 440 Tape but the caulk was not Mono caulk. Milano was provided with formulas to be used for the caulk and tape that were from Tremco’s “formulation records” from 1974 to 1982. Milano also received raw asbestos to use in the formulas. He testified that he understood he was remanufacturing products with old formulas so that they could be tested “for the purposes of litigation.” Milano made the requested products, and they were “shipped *** off to a lab called EPI.” According to Milano, the EPI testing was done “to show and demonstrate that no detectible [*sic*] asbestos fibers [were] released from” Tremco’s products.

¶ 12 Milano identified the Tremco facilities where asbestos-containing products were manufactured, including its Kinsman, Toronto, Barberville, and Columbus facilities. He agreed that such facilities used “raw bags” of asbestos. Milano testified that “Tremco’s understanding of asbestos related hazards developed with the onset of [the Occupational Safety and Health Administration (OSHA) regulations on asbestos] in the early ’70s and progressed

from there.” More specifically, he agreed that Tremco knew about potential hazards associated with raw asbestos fiber in 1971. He also testified that Tremco had knowledge that asbestos could be harmful in “[t]he late ’60s to early ’70s.”

¶ 13 According to Milano, Tremco began making “efforts at the onset of OSHA to start trying to find alternatives to asbestos in [its] products.” In 1974, it had a goal of becoming asbestos-free. Tremco did not succeed in its goal until 15 to 20 years later.

¶ 14 Milano identified internal correspondence from Tremco and other documents describing the condition of Tremco’s Kinsman facility, where Tremco manufactured roofing materials. Those documents were admitted into evidence and showed that in November 1971, a Tremco employee described Tremco’s Kinsman facility as being “grossly negligent” in areas subject to OSHA regulations. One problem identified in the correspondence involved the use of asbestos as a “sweeping compound.” In June 1974, violations were noted in the area of “asbestos usage” and asbestos handling at the plant was described as “poor.” In January 1973, air samples from Tremco’s Kinsman facility were above recommended limits. Additionally, an OSHA inspection in December 1974 found various violations, including Tremco’s failure to post caution signs at entrances to the asbestos area and to “ensure that all places of employment be maintained free of accumulations of asbestos fibers if with their dispensing there would be an excessive concentration.”

¶ 15 Milano agreed that Tremco was an Illinois employer and should have known about the Illinois Workers’ Occupational Diseases Act. Plaintiff submitted portions of that act as an exhibit and Milano acknowledged that, in March 1936, it referenced employer liability in cases of asbestosis, a nonmalignant disease caused by asbestos. He further testified that Tremco’s headquarters was in Ohio and acknowledged that Ohio had regulations in 1947 regarding acceptable limits regarding exposure to asbestos in an employment setting. Milano agreed that given the Ohio regulations, “Tremco would have known that there was potential harm with asbestos.” He acknowledged that “Tremco knew in the ’40s asbestos could be harmful.”

¶ 16 Milano further identified a brochure produced and distributed by Tremco in 1987, entitled “WHY WAIT?” The brochure noted that the Environmental Protection Agency (EPA) proposed a rule to ban certain asbestos products and to phase out the use of asbestos over the next 10 years. It also stated that the EPA had concluded that “ ‘no level of exposure is without risk.’ ” According to Milano, the “WHY WAIT?” brochure came out of Tremco’s roofing division. Further, to his knowledge, decedent was never an employee of Tremco and did not work at any of its manufacturing facilities.

¶ 17 Plaintiffs next presented the testimony of Dr. Arthur Frank, their retained medical expert. Dr. Frank testified he was a board-certified physician in both internal and occupational medicine, held a Ph.D. in biomedical sciences on the subject of asbestos and how it affects respiratory tissue, and had performed asbestos-related research since 1968. He described mesothelioma as a cancer of the pleura, or lining of the lung, and other similar tissues. In the United States, mesothelioma “is virtually only caused *** by exposure to asbestos.”

¶ 18 According to Dr. Frank, in “modern history,” information regarding the health hazards of asbestos went back to the late 1890s. There were articles on the subject in the early 1900s, and the term asbestosis was coined in 1924. In 1942, the head of occupational cancer studies at the National Cancer Institute reported that he considered asbestos to be a cause of lung cancer. Dr. Frank testified that asbestosis, lung cancer, and mesothelioma could all be fatal diseases and he had never seen a “cured case of mesothelioma.”

¶ 19

Dr. Frank identified “six fibers that collectively are called asbestos.” He described the fibers as “extremely small” and stated that all of them caused disease. Dr. Frank acknowledged that some individuals were of the opinion that chrysotile asbestos fibers, unlike other fiber types, could not cause mesothelioma. However, he disagreed, stating there was “[r]eally nothing that supports” such opinions and that all of the government agencies in this country “recognize that all fiber types, including chrysotile, cause mesothelioma.” Dr. Frank testified that seeing “what fibers are in the lung” is not a way of determining what asbestos fibers a person inhaled. He noted that the different types of fibers stayed in the lung for different amounts of time. Crocidolite and amosite fibers “take up residence in the lung, and they tend to stay there” and have a half-life of two to three years. Alternatively, for chrysotile fibers, “the average half-life is about 90 days.” The fact that a fiber leaves the lung does not mean that it leaves the body. Dr. Frank stated that chrysotile fibers are “the fiber that most readily gets out to the pleura” where mesothelioma occurs.

¶ 20

Dr. Frank stated that there is no known safe level of exposure to asbestos. Because asbestos is a naturally occurring mineral, “we all have some exposure” (*i.e.*, “background” or “ambient” exposure). When questioned by plaintiffs’ counsel regarding how regularly and frequently a person must be exposed to asbestos to develop mesothelioma, Dr. Frank testified that “it’s not something that requires many, many years or constant ongoing exposure.” He stated as follows:

“Again, one time will do it. So there’s no set frequency. Obviously it’s a very simple principle. We call it the dose-response relationship. The more you’re exposed, the greater the dose, the more likely you are to get disease.

So someone who’s exposed for a week has a certain risk. For a year, their risk would be higher, assuming the same levels. And then, you know, if they work for four decades or two decades or whatever, the risk is going to be even higher because the exposure was higher over time.”

Dr. Frank asserted that there was no scientific way to determine which exposure to asbestos caused a person to develop a disease, stating: “It is the cumulative exposure, the totality of the exposure that we say that causes the disease.”

¶ 21

Regarding the ability of asbestos-containing products to release asbestos fibers, Dr. Frank testified as follows:

“I’ve been doing this work a long time, and there’s not a single product I’ve ever come across that has not had the capacity to give up fibers when worked with. I mean, you think of something like asbestos cement pipe. You would think, well, you know, a piece of cement, it’s not going to give up fibers.

But if you cut it, drill it, bevel it, you know, work with it the way pipe is worked with, even there, asbestos fibers will come out. And when the water flows through it, because it’s often used for water system piping, it pulls out asbestos fibers even out of something like cement. So there isn’t a product that doesn’t have the ability to give up asbestos.”

Dr. Frank maintained that even encapsulated asbestos products can give off respirable fibers. The following colloquy occurred between Dr. Frank and plaintiffs’ counsel:

“Q. Doctor, in the course of your—of the last 40 years of doing this, have any of the cases you’ve looked at involved rubber or butyl tape or—or a caulking for windows or doors?

A. Yes *** they have.

Q. Can those products give off asbestos?

A. Yes, they can.”

¶ 22 Dr. Frank stated that decedent’s medical record showed “that he developed a malignant pleural mesothelioma.” He opined that mesothelioma was his cause of death. Additionally, the asbestos fibers that were found in decedent’s lung indicated that he “had significant prior exposure to asbestos.”

¶ 23 Plaintiffs’ counsel asked Dr. Frank to assume that decedent worked as a window glazier, using “caulk daily during [his] career” and, during the 1960s and 1970s, using “asbestos-containing tape.” Based on such facts, Dr. Frank opined decedent’s “exposures to asbestos would have caused him to develop the mesothelioma that he had that caused his death.” He testified that when a person is exposed to respirable asbestos fibers in their work, that exposure is “above background.” Dr. Frank further opined “that all of the exposures that [decedent] had from any and all products of any and all fiber type would have contributed to his developing his mesothelioma.” He stated that the overall totality of what a person is exposed to, the cumulative dose, is what is implicated in mesothelioma.

¶ 24 On cross-examination, Dr. Frank testified that background levels of asbestos were “many orders of magnitude less than what’s legally allowed in the workplace.” When discussing exposure to asbestos as causative of disease, it was his view that “[i]t’s all the exposures together that give you the cumulative exposure.” Dr. Frank also stated that the cumulative exposure “may come from multiple sources.”

¶ 25 He explained that respirable fibers meant “fibers that can actually get down into the lung.” He testified some fibers were too big and “won’t get down there.” Dr. Frank agreed that “the testing and the determination of the extent to which measurable asbestos fibers are released during the manipulation of any particular product” was “not the kind of work that” he performed. Rather, that kind of work was performed by industrial hygienists, mineralogists, engineers, or geologists. Further, he agreed that such testing would help determine the “dose,” or how much asbestos entered the body, from any particular product. The following colloquy then occurred between Tremco’s counsel and Dr. Frank:

“Q. And as I understand your general opinion, it is that any and every exposure over background constitutes a substantial contributing factor in the development—development of asbestos-related disease, and that includes as it specifically relates to [decedent’s] mesothelioma. Do I understand that correctly?

A. All of the exposures that he had to any and all products with any and all fiber types contributed to his disease. I can’t sit here and tell you what his relative exposure was to product A, B, C, D, E, or F. I can just say whatever can be documented that he was exposed to, they would all be part of his cumulative exposure.

* * *

Q. Is it your opinion then that each and every fiber above background is part of the overall contribution to someone’s cumulative exposure?

A. No, that is not my opinion. My opinion is that it is the cumulative exposure, all of the fibers together, that give someone disease.

Q. Well, let me ask you this. Isn't it your opinion that in terms of exposure that is causative it's either zero or it's substantial; there's no such thing as not substantial?

A. There is no such thing as an amount of exposure that doesn't contribute to one's cumulative exposure. It goes back to that cigarette example. Either you have to say that one cigarette is insubstantial or that they were all substantial because they made up collectively the cumulative exposure."

Dr. Frank testified that "some exposures are more and some are less, but you can't leave any of them out. So it's either zero or it contributed."

¶ 26 Plaintiffs also presented the testimony of Dr. John Migas, a board-certified physician in the areas of internal medicine and oncology, who treated decedent during his lifetime for colon cancer. Dr. Migas described his treatment of decedent, which included six months of chemotherapy. He stated that, in September 2011, decedent's colon cancer appeared to be in complete remission.

¶ 27 Dr. Migas described the medical treatment decedent received immediately prior to his death in September 2012 and about the relationship between asbestos and mesothelioma. He stated that asbestos can cause mesothelioma. According to his training, there are multiple asbestos fibers and all of the fibers could cause mesothelioma. Dr. Migas stated he had seen approximately 50 cases of mesothelioma during his career and all of them had histories involving exposure to asbestos. Some of his patients had long-standing exposures as a result of the patient's employment. The shortest case of exposure "was a weekend exposure." Dr. Migas testified that some of his patients also had been exposed to asbestos from more than one place. He stated that "it appears that the more asbestos that you take in per time element seems to be consistent with a higher risk."

¶ 28 Plaintiffs' counsel asked Dr. Migas to assume that decedent worked as a window glazier from 1956 until 1991; from the 1950s to the 1980s he worked daily with asbestos-containing tapes and caulk; and he worked around other "construction trades" performing their duties, including insulators. Based on those facts, Dr. Migas opined that "if there is asbestos containing [*sic*] and he had mesothelioma, I think that those could all be implicated as a risk that could have potentially caused mesothelioma." When using the word "risk," he meant that something was "more likely than not a contributor."

¶ 29 On cross-examination, Dr. Migas agreed that he treated decedent only in connection with his diagnosis of colon cancer and not for anything related to mesothelioma. He did not hold himself out as an expert in the field of asbestos medicine and had not done any research in that area. Dr. Migas also agreed that if testing on an asbestos-containing product resulted in no release of detectable respirable fibers, then the product would not be a risk factor for an asbestos-related disease.

¶ 30 After plaintiffs rested, Tremco moved for a directed verdict, arguing plaintiffs failed to meet their burden of establishing that decedent was exposed to asbestos fibers from its products or that exposure to asbestos fibers from its products was a substantial factor in causing decedent's mesothelioma. In response, plaintiffs' cited Dr. Frank's testimony that "all products release fibers," that he was familiar with butyl tapes and caulking, and that such products "release fibers." The trial court denied the motion.

¶ 31 As part of its case, Tremco presented the testimony of Dr. Michael Graham, a forensic pathologist. Dr. Graham reviewed decedent's medical records, depositions from decedent's

coworkers, and microscopic slides from decedent's tissues. He noted various medical issues that decedent had, including colon cancer in 2010, heart disease, and malignant mesothelioma. Dr. Graham testified that decedent's autopsy established the presence of mesothelioma. It "also established the presence of an increased amount of asbestos and specifically amosite asbestos in [decedent's] lung tissue and no increase in any other type."

¶ 32 Dr. Graham opined that "the primary cause" of decedent's death was his malignant mesothelioma and that his heart disease was also "involved." He stated there are two major groups of asbestos—the serpentine group, which is the chrysotile-type of asbestos fibers, and the amphibole group, which included amosite and crocidolite asbestos fibers. Dr. Graham opined that amphibole asbestos caused malignant mesotheliomas in humans. With respect to decedent, the autopsy showed that "[t]he only fibers that were found in an abnormal concentration in more than anybody just walking around *** were amosite fibers." According to Dr. Graham, amphiboles could "stick around" in tissue for decades, having more time to do damage. Dr. Graham acknowledged that there was "some controversy" regarding the relationship between exposure to chrysotile asbestos fibers and mesothelioma. He opined that heavy prolonged exposure to contaminated chrysotile fibers could cause pleural mesotheliomas.

¶ 33 According to Dr. Graham, decedent's mesothelioma was due to amosite fibers. He testified decedent may have been exposed to amosite asbestos from working around pipefitters and insulators in the sixties who worked with thermal insulation. Dr. Graham also opined that decedent's work with Tremco's products "had nothing to do" with his development of mesothelioma.

¶ 34 On cross-examination, Dr. Graham acknowledged that he was not a "researcher in the area of asbestos or asbestos disease." He testified he occasionally made a diagnosis of asbestos-related diseases, but he did not treat patients with such diseases. Dr. Graham agreed "that the majority of *** asbestos fibers that get to the pleura are short chrysotile fibers." He opined that Tremco's products "wouldn't release any significant amount of fiber" and "certainly not enough" to cause an asbestos-related disease. Dr. Graham acknowledged various published journals, articles, and studies that set forth the conclusion that chrysotile fibers were mesothelioma-producing fibers.

¶ 35 Tremco also presented the testimony of Dr. William Longo. Dr. Longo stated he had a doctorate in materials science and engineering. He was the president of Materials Analytical Services (MAS), a company that provided consulting and laboratory analysis services. Dr. Longo stated MAS was certified to do EPA work for the analysis of asbestos and certified by the American Industrial Hygiene Association to perform fiber counting by optical and transmission electron microscopy. Since 1998, MAS "processed and analyzed" approximately 400,000 to 450,000 asbestos samples, both bulk and air samples.

¶ 36 At Tremco's request, MAS studied the Mono caulk and 440 Tape. Tremco provided the products, and Dr. Longo was personally involved in the testing and analysis of those products. He stated that both optical microscopes, also referred to as phase contrast microscopy (PCM) analysis, and transmission electron microscopes were used by MAS to analyze asbestos samples from Tremco's products. Optical microscopes were used in protocols specified by OSHA and could "magnify up to about 2000 times" or 3000 to 4000 times with computer enhancement. Alternatively, a transmission electron microscope, or TEM analysis, was

mandated by the EPA to test air samples for schools and was more powerful. Dr. Longo stated an electron microscope “can magnify up to one to two to [three] million times.”

¶ 37 Dr. Longo testified a bulk sample analysis of Tremco’s 440 Tape was done to determine asbestos content of the product. From that analysis, it was determined that the 440 Tape contained chrysotile asbestos and that the percentage of asbestos in the tape was approximately 22%. A bulk sample analysis of the Mono caulk showed that it also contained chrysotile asbestos fibers and that the amount of asbestos in the caulk was 0.3 to 0.5%. Although MAS did not perform a full analytical analysis of the products submitted for testing, both products had the same properties as their historical specifications.

¶ 38 Dr. Longo next described conducting work practice studies on both of Tremco’s products. He stated a work practice study involved performing work activities or “worst case scenario” activities to determine if a product would release measurable amounts of respirable asbestos fibers. With respect to Tremco’s 440 Tape, Dr. Longo testified that the product he analyzed was made in 2006 by Milano for testing purposes. The work practice study performed on the 440 Tape involved handling the tape and cutting the tape 70 times over a 10-minute period. Air samples were taken from six inches from the mouth and nose of the person performing the test, as well as seven to eight feet away from the work activity. Dr. Longo testified they also studied the clothing of the individual performing the testing. Results of the air sample analysis on the 440 Tape showed that “the amount of asbestos fibers in the air for an occupational exposure was too low for [MAS] to detect.” Dr. Longo testified as follows:

“The amount of—the amount of asbestos fibers in the air for an occupational exposure was too low for us to detect it with our technique so we came up with zero amount of asbestos fibers for our analysis, and that was both PCM and transmission electron microscopy.

So we have a certain detection limit, meaning I can only analyze so far, and I can only go to that amount that is our detection limit detecting 1 fiber. If it is below that concentration, we can’t detect it. So it was below our ability to analyze and to detect the asbestos so we would say that it was below our detection limit.”

¶ 39 Regarding the Mono caulk, Dr. Longo testified that MAS received a sample that was estimated to have been manufactured in the early 1980s and not “in its original form, meaning you couldn’t stick that cartridge in a caulking gun and actually caulk something with it because it had hardened.” He also testified that the caulk sample “had been already analyzed once by another lab” and had “an actual hole or flap cut out of the—it was in a cardboard tube where the sample had been taken.” Dr. Longo then testified as follows regarding the work practice study performed on the caulk:

“So we thought about it and determined that the worst case scenario for a potential exposure for a glazier, in my opinion, is coming back later and removing the material, such as the window broke and you have to replace it.

The initial application of the material, it’s in a—if you’ve all seen caulk, it’s in a very tacky, sticky form and that typically doesn’t release asbestos fibers, they’re all wrapped up into the—I think of flypaper, they’re all stuck in there.

So what we did was *** we took the Tremco cartridge and we cut the section of cardboard off to expose, say, a half barrel of the hardened caulk and took an electric

drill with a brass grinder and actually ground off an eighth inch of the top of the barrel of the caulk.”

According to Dr. Longo, testing also involved cutting strips of the caulking off, putting it into an oven at 230 degrees Fahrenheit for 24 hours to harden it, and then grinding it off with a drill and a wire brush. Dr. Longo stated that, like with the 440 Tape, air sample testing did not detect “any measurable amounts of asbestos fibers.” Also, analysis of the clothing worn by the individuals testing both products showed “the amount of asbestos contamination transmitted to the clothing was below the detection limit of the method.”

¶ 40 Dr. Longo testified that Tremco’s products were thermoplastic materials, which always stayed “pliable” and had a “stickiness.” Such materials were unique and did not behave the same way as other asbestos-containing materials that release asbestos fibers when subjected to grinding. When asked whether Tremco’s 440 Tape would release measurable or detectable respirable asbestos fibers if sawed, sanded, cut, ground, or abraded, Dr. Longo opined as follows:

“It would be my opinion that using this product would not produce any significant exposure in an occupational setting. I can’t say that it doesn’t release any fibers. It’s sort of like any analytical technique. If somebody comes out and says that this material will never release [one] fiber or any fibers, he’s just making that up.

All you can say is I’ve measured it using the standard protocols that are used in industrial hygiene situations for occupational exposures and I cannot detect any fibers.”

Dr. Longo stated he had the same opinion with respect to Tremco’s Mono caulk.

¶ 41 On cross-examination, Dr. Longo testified that permissible exposure limits under OSHA were “based on the optical microscope PCM counts.” He stated “to be counted, an asbestos structure or fiber has to be a certain length and a certain width. [It] [h]as to be greater than 5 micrometers in length and greater than about [0].2 micrometers wide for the optical microscopist to actually see the fiber.” Dr. Longo also testified that the typical individual chrysotile fiber was not 0.2 micrometers wide. For chrysotile fibers to be observed on an “optical or PCM microscope,” there would “have to be a bundle of fibers.” Dr. Longo agreed that when chrysotile fibers are released in what he would consider a significant amount, 80% to 85% of the fibers “are smaller than what allows them to [be] characterize[d] as an OSHA fiber.” Further, a dust count using the optical microscopy system and OSHA fiber definition or protocol would reflect “only a very small percentage of the actual chrysotile fibers that are in the air.”

¶ 42 Dr. Longo agreed that he was not a medical doctor and did not give opinions on medical causation for asbestos disease. Further, the question of how many or how few respirable asbestos fibers put someone at risk for disease was “not [his] area.” The potential toxicity of asbestos fibers that were not observed under OSHA standards with optical microscopy was also for others to determine and not within his area of expertise.

¶ 43 When referencing “detection limits” in connection with the testing MAS performed, Dr. Longo was referencing “OSHA fibers and concentration of OSHA fibers.” He agreed that the objective of the testing was to use OSHA criteria for determining “whether or not there was any significant occupational exposure.” The following colloquy occurred between plaintiffs’ counsel and Dr. Longo:

“Q. Okay. *** In other words, you’re not saying that [decedent] was exposed or not exposed to respirable asbestos fibers from his usage of Tremco products, you’re saying that based on your testing it was not a significant level of exposure; is that correct?

A. That’s correct. Nobody can say that there wasn’t one or [two] fibers by chance that got released, but there’s no way to detect it. And in the method we use there’s no way to detect that.

In this particular case, this particular product using the OSHA protocols at—to our detection limit there was no exposure. Once you start going below our detection limit, certainly couldn’t rule out a fiber or two, but nothing significant.”

Dr. Longo testified that testing results for Tremco’s products were below OSHA’s “level for what [it] deem[s] important.” On redirect examination, Dr. Longo clarified that MAS’s testing of Tremco’s products used a transmission electron microscope to identify respirable asbestos fibers.

¶ 44 Ultimately, the jury returned a verdict in favor of plaintiffs and against Tremco. It assessed damages totaling \$5,063,324.52.

¶ 45 In March 2018, Tremco filed a posttrial motion, seeking a judgment *n.o.v.* or a new trial on all issues. It alternatively sought a setoff for amounts plaintiffs received from other settlements. Following a hearing in June 2018, the trial court denied Tremco’s requests for a judgment *n.o.v.* and a new trial. However, “[a]s a result of set offs,” it entered a modified judgment in favor of plaintiffs and against Tremco in the amount of \$3,272,083.31.

¶ 46 This appeal followed.

¶ 47 II. ANALYSIS

¶ 48 A. Judgment *N.O.V.*

¶ 49 On appeal, Tremco first argues that it is entitled to a judgment *n.o.v.* It contends plaintiffs failed to prove causation because they presented no competent or admissible evidence that Tremco’s Mono caulk or 440 Tape released respirable asbestos fibers. Tremco also argues that, assuming its products did release respirable asbestos fibers, plaintiffs presented no competent evidence that decedent was exposed to those fibers with “ ‘such frequency, regularity and proximity’ ” that they could be viewed as a substantial factor in causing decedent’s mesothelioma.

¶ 50 A motion for judgment *n.o.v.* raises the same questions and is governed by the same rules of law as a motion for a directed verdict. *Lawlor v. North American Corp. of Illinois*, 2012 IL 112530, ¶ 37, 983 N.E.2d 414. Such motions present a question of whether “there is a total failure or lack of evidence to prove any necessary element of the [plaintiff’s] case.” (Internal quotation marks omitted.) *Id.* “In ruling on a motion for a judgment *n.o.v.*, a court does not weigh the evidence, nor is it concerned with the credibility of the witnesses; rather, it may only consider the evidence, and any inferences therefrom, in the light most favorable to the party resisting the motion.” *Maple v. Gustafson*, 151 Ill. 2d 445, 453, 603 N.E.2d 508, 512 (1992). Ultimately, “[a] motion for judgment *n.o.v.* should be granted only when all of the evidence, when viewed in its aspect most favorable to the opponent, so overwhelmingly favors [a] movant that no contrary verdict based on that evidence could ever stand.” (Internal quotation marks omitted.) *Lawlor*, 2012 IL 112530, ¶ 37.

¶ 51 “When the trial court has erroneously denied a motion for judgment *n.o.v.*, we will reverse the verdict without a remand.” *Id.* On appeal, we apply a *de novo* standard of review. *Id.*

¶ 52 In negligence actions such as this one, a necessary element of proof “is that the defendant’s asbestos was a ‘cause’ of the decedent’s injuries.” *Thacker v. UNR Industries, Inc.*, 151 Ill. 2d 343, 354, 603 N.E.2d 449, 455 (1992). “[C]ausation requires proof of both ‘cause in fact’ and ‘legal cause.’ ” *Id.* A plaintiff may not “take the causation question to the jury when there is insufficient evidence for the jury to reasonably find that the defendant’s conduct was a cause of the plaintiff’s harm or injury.” *Id.* at 355.

¶ 53 In asbestos cases, a plaintiff may prove “cause in fact” under the “substantial factor” test, whereby “the defendant’s conduct is said to be a cause of an event if it was a material element and a substantial factor in bringing the event about.” *Id.* at 354-55. In *Thacker*, the supreme court adopted the “ ‘frequency, regularity and proximity’ test as a means by which an asbestos plaintiff can prove more than minimum contact to establish that a specific defendant’s product was a substantial factor in being a cause in fact of a plaintiff’s injury.” *Nolan v. Weil-McLain*, 233 Ill. 2d 416, 432, 910 N.E.2d 549, 558 (2009) (citing *Thacker*, 151 Ill. 2d at 359). Under that test, the plaintiff must show that the “injured worker was exposed to the defendant’s asbestos through proof that (1) he regularly worked in an area where the defendant’s asbestos was frequently used and (2) the injured worker did, in fact, work sufficiently close to this area so as to come into contact with the defendant’s product.” *Thacker*, 151 Ill. 2d at 359.

“In addition, by adopting the [frequency, regularity, and proximity test], *Thacker* thereby rejected the argument *** that so long as there is *any* evidence that the injured worker was exposed to a defendant’s asbestos-containing product, there is sufficient evidence of cause in fact to allow the issue of legal causation to go to the jury.” (Emphasis in original.) *Nolan*, 233 Ill. 2d at 434.

¶ 54 1. Release of Respirable Asbestos Fibers

¶ 55 Here, Tremco initially argues plaintiffs’ evidence was insufficient to show causation because plaintiffs presented no competent or admissible evidence that Tremco’s products released respirable asbestos fibers. It contends that Dr. Frank’s testimony on the subject was based on unsubstantiated speculation. Tremco cites this court’s recent decision in *McKinney v. Hobart Brothers Co.*, 2018 IL App (4th) 170333, 127 N.E.3d 176, to support its argument.

¶ 56 In *McKinney*, the plaintiff alleged he developed mesothelioma after inhaling asbestos fibers from the defendant’s asbestos-containing welding rods. *Id.* ¶ 1. A jury returned a verdict in the plaintiff’s favor, and the defendant appealed. *Id.* On review, this court reversed, finding the defendant was entitled to a judgment *n.o.v.* on two alternative bases. *Id.* ¶¶ 74, 83.

¶ 57 In considering the issues presented for review, we addressed challenges to the testimony and opinions of the plaintiff’s retained expert, Dr. Frank—the same Dr. Frank who testified in the case at bar. In *McKinney*, Dr. Frank opined that the defendant’s welding rods were capable of giving off respirable asbestos fibers. *Id.* ¶ 17. As a basis for his opinion, Dr. Frank testified that “in his decades of experience with asbestos, [he] had never known of an asbestos-containing product that, if ‘properly manipulated,’ would not give off asbestos fibers.” *Id.* Dr. Frank also relied on “ ‘the work of Dr. Dement with fibers being released from welding rods.’ ” *Id.*

¶ 58 On appeal, the defendant complained that Dr. Frank’s fiber-release testimony was inadmissible because “ ‘it was not the product of a reliable methodology.’ ” *Id.* ¶ 40. Initially, this court agreed that Dr. Frank’s opinions were speculative to the extent that they were based on never having seen an asbestos-containing product that did not release asbestos fiber. *Id.* ¶ 44. Specifically, we stated as follows:

“We agree it would be ‘sheer, unsubstantiated speculation’ [citation] to conclude that, simply because other asbestos-containing products, such as cement pipes, released respirable asbestos fibers when they were sawed, cut, or beveled, [the] defendant’s welding rods released respirable asbestos fibers when they were jostled around in a packing box, dropped, or stepped on.” *Id.* (quoting *Wiedenbeck v. Searle*, 385 Ill. App. 3d 289, 293, 895 N.E.2d 1067, 1070 (2008)).

“While testimony grounded in expert analysis of the known physical facts is welcomed, conclusory opinions based on sheer, unsubstantiated speculation should be considered irrelevant.” (Internal quotation marks omitted.) *Wiedenbeck*, 385 Ill. App. 3d at 293. However, because Dr. Frank also relied on a welding-rod study from another expert, which the defendant did not challenge, we concluded there was no abuse of discretion in the admission of his testimony. *McKinney*, 2018 IL App (4th) 170333 ¶¶ 45-47.

¶ 59 Here, Dr. Frank’s testimony was remarkably similar to his testimony in *McKinney*. When addressing the ability of asbestos-containing products to release asbestos fibers, Dr. Frank testified that “there’s not a single product I’ve ever come across that has not had the capacity to give up fibers when worked with.” He gave as an example “an asbestos cement pipe,” which would release asbestos fibers when cut, drilled, beveled, or exposed to the flow of water. Dr. Frank concluded that “there isn’t a product that doesn’t have the ability to give up asbestos.”

¶ 60 We agree that, alone, such testimony was unsubstantiated and speculative. However, like in *McKinney*, Dr. Frank also provided another basis for his fiber-release opinion. On questioning by plaintiffs’ counsel, Dr. Frank testified that in his 40 years of experience, he “looked at” cases involving rubber or butyl tape or caulking for windows and doors and affirmed that they “can” give off asbestos fibers. Because Dr. Frank’s opinions were supported by his experience in working with asbestos and asbestos-containing products similar to the ones at issue in this case, we disagree that his fiber-release opinion was speculative or unsubstantiated.

¶ 61 On review, plaintiffs point to matters outside of Dr. Frank’s testimony that they argue also support a finding that Tremco’s products were capable of releasing asbestos fibers. First, they note that Dr. Longo, Tremco’s expert, testified he could not rule out the possibility of fiber release from Tremco’s products. In particular, he testified that although his testing and analysis of Tremco’s products did not detect respirable asbestos fibers, “[n]obody can say that there wasn’t one or [two] fibers by chance that got released.” We agree with plaintiffs that such testimony supports an inference that Tremco’s asbestos-containing products were capable of releasing fibers.

¶ 62 Second, plaintiffs further argue that an adverse inference may be drawn from Tremco’s failure to produce the results of testing performed on its products by EPI in 2006. They note that the jury in this case was instructed pursuant to Illinois Pattern Jury Instructions, Civil, No. 5.01 (approved July 18, 2014) (hereinafter IPI Civil No. 5.01), which “informs the jury that it may infer that certain evidence would have been adverse to a party where that evidence was not produced by the party and was within the party’s control.” *Lakin v. Casey’s Retail Co.*,

2018 IL App (5th) 170152, ¶ 50, 107 N.E.3d 904. That instruction, also referred to as the “missing witness” or “missing evidence” instruction, specifically states as follows:

“If a party to this case has failed [to offer evidence] [to produce a witness] within his power to produce, you may infer that the [evidence] [testimony of the witness] would be adverse to that party if you believe each of the following elements:

1. The [evidence] [witness] was under the control of the party and could have been produced by the exercise of reasonable diligence.
2. The [evidence] [witness] was not equally available to an adverse party.
3. A reasonably prudent person under the same or similar circumstances would have [offered the evidence] [produced the witness] if he believed [it to be] [the testimony would be] favorable to him.
4. No reasonable excuse for the failure has been shown.” IPI Civil No. 5.01.

¶ 63 At trial, Milano testified that in 2006, he “mix[ed] up” batches of Tremco’s asbestos-containing 440 Tape and caulk (although not Mono caulk) at the request of Tremco’s legal counsel and “shipped [the products] off to a lab called EPI” for testing to determine whether they released “detectable [*sic*] asbestos fibers.” Although the testing was done “for the purposes of litigation,” it was not done in connection with the present case. Ultimately, the 2006 EPI test results were not submitted into evidence in the underlying proceedings, and on appeal, Tremco does not challenge the trial court’s decision to instruct the jury pursuant to IPI Civil No. 5.01.

¶ 64 Plaintiffs assert that “since Tremco conducted the [EPI testing] to determine fiber release from its tape and caulk products in preparation for litigation, Tremco’s failure to produce the results at trial allowed the jury to infer the results showed Tremco’s products release quantities of respirable asbestos fiber.” Before the jury, plaintiffs framed the inference to be drawn from the missing evidence in a slightly different way. During their rebuttal closing argument, they pointed out that Dr. Longo’s testing “detected *** no chrysotile fibers” and argued the jury could draw a contrary “inference” based on the missing EPI testing evidence. In other words, the jury could infer that the EPI testing showed the release of chrysotile fibers from Tremco’s products. On appeal, Tremco does not dispute the jury could have made this inference and we will assume *arguendo* the inference was permissible. Accordingly, given Dr. Frank’s testimony, Dr. Longo’s acknowledgment that he could not rule out fiber release, and the allowable adverse inference from the missing EPI testing evidence, we find there was sufficient evidence presented from which the jury could determine that Tremco’s 440 Tape and Mono caulk were capable of releasing asbestos fibers.

¶ 65 2. Substantial Causation

¶ 66 However, our determination that the record contains sufficient evidence to support a finding that Tremco’s products were *capable* of releasing asbestos fibers does not end our inquiry. As Tremco asserts, plaintiffs were also required to present evidence to show that decedent was exposed to asbestos from Tremco’s products with “ ‘such frequency, regularity and proximity’ ” that the asbestos from those products could be viewed as a substantial factor in causing decedent’s mesothelioma.

¶ 67 As stated, under the substantial factor test, “the defendant’s conduct is said to be a cause of an event if it was a material element and a substantial factor in bringing the event about.”

Thacker, 151 Ill. 2d at 354-55. Further, the frequency, regularity, and proximity test has been adopted by the supreme court “as a means by which an asbestos plaintiff can prove more than minimum contact [with asbestos fibers] to establish that a specific defendant’s product was a substantial factor in being a cause in fact of a plaintiff’s injury.” *Nolan*, 233 Ill. 2d at 432 (citing *Thacker*, 151 Ill. 2d at 359).

¶ 68 In this case, even accepting that Tremco’s 440 Tape and Mono caulk were *capable* of releasing respirable asbestos fibers, the evidence was otherwise lacking with respect to the element of substantial factor causation. In particular, there is no evidence in the record showing when, and under what circumstances, Tremco’s products released respirable asbestos fibers, whether circumstances causing the release of respirable asbestos fibers were the type that would have been regularly encountered by decedent when using Tremco’s products, or whether the release of fibers from Tremco’s products was anything more than minimal.

¶ 69 On appeal, plaintiffs argue the evidence presented satisfied the frequency, regularity, and proximity test because decedent worked with Tremco’s asbestos-containing products “virtually every working day over his career.” We agree that the record shows decedent worked in close proximity with Tremco’s products on a regular and frequent basis. However, it does not necessarily follow from such evidence that he also had frequent, regular, and proximate contact with respirable asbestos fibers from those products.

¶ 70 In *Thacker*, 151 Ill. 2d at 348-49, the plaintiff brought suit against the defendant, alleging her husband developed cancer and died as a result of his exposure to raw asbestos while working in a plant that processed the defendant’s raw asbestos. In addressing the use of fiber drift evidence to establish the proximity requirement of the frequency, regularity, and proximity test, the supreme court stated that the plaintiff could not “meet her burden of production unless and until she [was] able to point to sufficient evidence tending to show that [the defendant’s raw] Manville asbestos was *actually inhaled* by the decedent.” (Emphasis added.) *Id.* at 364; see also *Wehmeier v. UNR Industries, Inc.*, 213 Ill. App. 3d 6, 31, 572 N.E.2d 320, 337 (1991) (acknowledging that the amount of evidence needed to establish the regularity and frequency of exposure will differ from case to case based on factors including “the tendency of *** asbestos products to release asbestos fibers into the air”); *Junge v. Garlock, Inc.*, 629 A.2d 1027, 1029 (Pa. Super. Ct. 1993) (holding “that [an asbestos] plaintiff must present evidence that he inhaled asbestos fibers shed by the specific manufacturer’s product”). The *Thacker* court further stated as follows:

“We agree *** that even though the plaintiff offered no evidence of where in the plant Manville asbestos was processed, the fact that Manville asbestos, once inside the plant, necessarily contributed to the dust in the plant air was sufficient to meet the proximity requirement, particularly in light of (1) the friable and potent nature of the *raw* asbestos Manville shipped to the plant and (2) testimony, albeit slight, indicating that Manville asbestos necessarily generated dust which became part of dust which circulated throughout the facility. In effect the appellate court held that, under the facts presented, the decedent regularly worked in dangerous proximity to *dust generated* from Manville’s asbestos even if it is assumed that Manville’s asbestos was initially processed in areas of the plant removed from where the plaintiff worked and that the jury could thereby reasonably infer causation. We agree with this conclusion.” (Emphasis in original and added.) *Thacker*, 151 Ill. 2d at 364-65.

¶ 71 Here, there is an absence of evidence in the record to show under what circumstances Tremco’s products released respirable asbestos fibers such that they could be “actually inhaled” by decedent. *Id.* at 364. Dr. Frank’s testimony that, in his experience, similar products were capable of giving off fibers does nothing to explain how such products must be handled or manipulated before fibers are released. In short, without more, evidence that decedent was exposed to Tremco’s products does not equal evidence that he had frequent, regular, and proximate contact with respirable asbestos fibers from those products. In this case, we find it is speculative and conjectural to conclude from the evidence presented that respirable asbestos fibers were released from Tremco’s products with any frequency or regularity while decedent worked in proximity to those products.

¶ 72 On appeal, plaintiffs also argue that they were not required to quantify the number of asbestos fibers to which decedent was exposed to prove causation. We agree. Nevertheless, relevant asbestos case authority dictates that plaintiffs must show more than a *de minimis* exposure to defendant’s asbestos. See *Nolan*, 233 Ill. 2d at 432 (stating the “frequency, regularity and proximity” test was a means by which an asbestos plaintiff can prove more than “casual” or “minimum contact” with the defendant’s asbestos); *Lohrmann v. Pittsburgh Corning Corp.*, 782 F.2d 1156, 1162 (4th Cir. 1986) (referring to the frequency, regularity, and proximity test as “a *de minimis* rule since a plaintiff must prove more than a casual or minimum contact with the [asbestos] product”). In this instance, plaintiffs’ evidence showed only that decedent came into frequent, regular, and proximate contact with Tremco’s products and that such products were capable of releasing asbestos fibers. However, plaintiffs presented no evidence establishing that the activities engaged in by decedent when working as a window glazier with Tremco’s products caused the release of respirable asbestos fibers or that the products released asbestos fibers in such amounts that decedent had more than *de minimis*, casual, or “minimum” contact with asbestos from Tremco’s products.

¶ 73 Finally, in addressing the issue of causation, the parties disagree as to whether Dr. Frank’s causation opinion testimony is contrary to Illinois law. Tremco argues Dr. Frank’s opinions on causation are essentially based on an “each and every exposure” theory, wherein any exposure to asbestos fibers is a substantial factor in causing asbestos-related disease. To support its argument, Tremco cites *Krik v. Crane Co.*, 76 F. Supp. 3d 747, 749 (N.D. Ill. 2014), an asbestos personal injury case wherein the defendants successfully sought to bar the plaintiff from presenting expert testimony, including testimony from Dr. Frank, that “each and every exposure to asbestos products results in injury to the person so exposed.”

¶ 74 In *Krik*, the plaintiff’s experts were expected to testify “that *any* exposure to asbestos, even the very first one, regardless of dosage is sufficient to cause” asbestos-related disease. *Id.* at 752. In particular, it was expected that Dr. Frank would testify that (1) “ ‘any exposure, even the first exposure’ ” would be considered a substantial contributing factor and (2) “the first exposure, no matter how limited, would be a substantial cause.” *Id.* The court stated as follows:

“[The plaintiff] does not offer any expert testimony as to how much asbestos exposure he experienced and whether that dosage of exposure was sufficient to cause his lung cancer. Rather, he relies upon the ‘Any Exposure’ theory and argues that a single exposure to asbestos is enough and every additional exposure contributed as well. The primary basis for the ‘Any Exposure’ theory seems to be that [the plaintiff’s] experts cannot rule out that a single dose of asbestos causes injury. From this, they

conclude that any and all exposure to asbestos is necessarily harmful. [Citation.] This is not an acceptable approach for a causation expert to take.” *Id.* at 752-53.

See also *id.* at 753 (citing arguments by the plaintiff’s counsel “ ‘that the cumulative exposure is the cause. So that’s [what] Dr. Frank is saying, each exposure is [a] substantial contribution to the cumulative total.’ ”).

¶ 75 The *Krik* court noted that Illinois applied “the ‘substantial contributing factor’ test *** to the issue of asbestos injury causation” (*id.* at 751), and stated as follows:

“Indeed, the controlling case from the Illinois Supreme Court, *Thacker*, explicitly adopted the ‘frequency, regularity, and proximity’ causation test ‘as the rule of law in Illinois,’ from a Fourth Circuit case entitled *Lohrmann v. Pittsburgh Corning Corp.*, 782 F.2d 1156 (4th Cir. 1986). [Citations.] *Lohrmann*’s holding, in turn, was based upon what the Fourth Circuit termed a ‘*de minimis*’ rule, that ‘a plaintiff must prove more than a casual or minimum contact with the product.’ ” (Emphasis omitted.) *Id.* at 753 (quoting *Lohrmann*, 782 F.2d at 1162).

Accordingly, the court found that the plaintiff’s argument in the case before it was unavailing because it was based on the theory “that a single exposure or a *de minimis* exposure satisfies the substantial contributing factor test.” *Id.* The court stated that “it is not that *de minimis* exposure is sufficient, but that more than *de minimis* exposure is required to prove causation.” *Id.*

¶ 76 Plaintiffs respond on appeal by arguing that Dr. Frank’s causation opinion in this case was not that “each and every exposure” to asbestos was a substantial factor causing asbestos-related disease. Rather, they contend that Dr. Frank opined that a disease like decedent’s mesothelioma “is caused by that person’s total and cumulative exposure to asbestos” and that “it is scientifically impossible to separate out each exposure and say exposure A contributed to the person’s total dose but exposure B did not.” Further, they rely on *Rost v. Ford Motor Co.*, 151 A.3d 1032, 1035 (Pa. 2016), a Pennsylvania Supreme Court case that addressed both the “proper application of the ‘frequency, regularity, and proximity’ criteria in asbestos product liability litigation” and expert opinion testimony on causation from Dr. Frank.

¶ 77 In *Rost*, there had been a pretrial ruling by the trial court that precluded “any expert from offering testimony that ‘each and every breath’ of asbestos may constitute an evidentiary basis for the jury to find that the defendant’s product was a substantial cause of mesothelioma.” *Id.* at 1037. At trial, Dr. Frank provided testimony that mesothelioma was a dose-response disease, with small amounts of asbestos carrying small risks of developing the disease and larger amounts carrying larger risks. *Id.* at 1039. He also testified that the “causative agent” in mesothelioma was “ ‘the series of exposures’ ” and stated that “[a]ll exposures to asbestos contribute to the cumulative dose of asbestos, and the cumulative dose causes mesothelioma.” *Id.* Dr. Frank further testified regarding the plaintiff’s specific history in that case, finding that he had been exposed to “potentially high amounts [of asbestos] on a daily basis.” *Id.* at 1040. Based on studies he reviewed, he approximated the amount of chrysotile asbestos fibers the plaintiff was exposed to in his work. *Id.* at 1039-40.

¶ 78 Additionally, in response to a hypothetical question that detailed the plaintiff’s exposure to asbestos, “Dr. Frank testified that it was his opinion *** that [the plaintiff’s] exposure to [the defendant’s] products was a ‘significant contributing cause to developing mesothelioma.’ ” *Id.* at 1040. Finally, he opined that if the plaintiff’s only exposures to asbestos was from the defendant’s products, those exposures alone “ ‘without any of the ones he had later’ ” would

have been enough to say that asbestos from the defendant's products was a significant contributing factor to the plaintiff's mesothelioma. *Id.*

¶ 79

On review before the Pennsylvania Supreme Court, the defendant challenged Dr. Frank's opinions, arguing they were based on an "each and every exposure" type of theory. *Id.* at 1043. The court stated that "expert testimony based upon the notion that 'each and every breath' of asbestos is substantially causative of mesothelioma will not suffice to create a jury question on the issue of substantial factor causation." *Id.* at 1044. Instead, "to create a jury question, a plaintiff must adduce evidence that exposure to [the] defendant's asbestos-containing product was sufficiently 'frequent, regular, and proximate' to support a jury's finding that [the] defendant's product was substantially causative of the disease." *Id.* Ultimately, it rejected the defendant's challenge to Dr. Frank's testimony, stating as follows:

"We must agree with the [plaintiffs] that [the defendant] has confused or conflated the 'irrefutable scientific fact' that every exposure cumulatively contributes to the total dose (which in turn increases the likelihood of disease), with the legal question under Pennsylvania law as to whether particular exposures to asbestos are 'substantial factors' in causing the disease. It was certainly not this Court's intention, [in prior decisions], to preclude expert witnesses from informing juries about certain fundamental scientific facts necessary to a clear understanding of the causation process for mesothelioma, even if those facts do not themselves establish legal (substantial factor) causation. In this case, while Dr. Frank clearly testified that every exposure to asbestos cumulatively contributed to [the plaintiff's] development of mesothelioma, he never testified that every exposure to asbestos was a 'substantial factor' in contracting the disease.

Instead, by way of, *inter alia*, the lengthy hypothetical that detailed the entirety of [the plaintiff's] exposure to [the defendant's] asbestos-containing *** products ***, Dr. Frank testified that [the plaintiff's] actual exposures to asbestos *** [from the defendant's products] was substantially causative of his mesothelioma." *Id.* at 1045-46.

The court further noted that Dr. Frank provided testimony that was specific to the plaintiff's history of exposure to asbestos from the defendant's products, as well as his history of exposure from other sources, and that he "testified that the totality of [the plaintiff's] exposure to asbestos [from the defendant's products], standing alone, was sufficient to have caused [the plaintiff's] mesothelioma, even if there had been no other exposures." *Id.* at 1046.

¶ 80

In this case, Dr. Frank provided similar testimony to the testimony he provided in *Rost* regarding the "fundamental scientific facts necessary to a clear understanding of the causation process for mesothelioma." *Id.* at 1045. He asserted that all asbestos fiber types cause mesothelioma, that there was a "dose-response" relationship between exposure and development of the disease, and that "cumulative exposure, the totality of the exposure" is what "causes the disease." *Id.* at 1039. Further, unlike in *Krik*, he did not offer the opinion that every exposure to asbestos was a substantial causative factor in the person's development of disease. When considering Dr. Frank's testimony in total, it is clear that his opinion was that each exposure to asbestos contributed to a person's cumulative exposure and that it was the cumulative exposure that caused disease. Accordingly, we do not find that Dr. Frank's testimony was contrary to Illinois law and substantial factor causation as argued by Tremco.

¶ 81

However, as noted in *Rost*, although testimony regarding "certain fundamental scientific facts" may be "necessary to a clear understanding of the causation process for mesothelioma,"

those same facts do not themselves necessarily establish substantial factor causation. *Id.* at 1045. Unlike his opinions in *Rost*, Dr. Frank’s opinions in this case fell short of demonstrating that decedent’s exposure to asbestos from Tremco’s products was a substantial factor in causing his mesothelioma. Specifically, Dr. Frank offered almost no testimony or opinions regarding decedent’s exposure to asbestos fibers from Tremco’s products, testifying only that in his experience similar products “can” release fibers under some unknown set of circumstances and in some unknown quantity or concentration. Additionally, when presented with a hypothetical question regarding decedent’s work as a glazier with asbestos-containing products, Dr. Frank opined only “[t]hat [decedent’s] exposures to asbestos would have caused him to develop the mesothelioma that he had that caused his death.” Noticeably absent from his testimony was any opinion that exposure to asbestos from Tremco’s products was a “substantial” factor in decedent’s development of his disease, particularly when compared to his exposure to asbestos from other sources.

¶ 82 Here, although we find that Dr. Frank’s “cumulative exposure” testimony was not the equivalent of the “each and every exposure” theory, we also find that his opinions failed to aid plaintiffs in meeting the substantial factor test under Illinois law. Accordingly, due to the lack of evidence showing that decedent’s exposure to respirable asbestos fibers from Tremco’s products on a frequent, regular, and proximate basis was a cause in fact in bringing about decedent’s mesothelioma, Tremco is entitled to a judgment *n.o.v.*

¶ 83

3. Packaging Contamination

¶ 84 We note that, on appeal, plaintiffs additionally argue that the jury could have reasonably inferred that decedent was exposed to raw asbestos fibers from the boxes in which Tremco’s 440 Tape and Mono caulk were packaged at its manufacturing facilities. To support this contention, plaintiffs rely on testimony from Dr. Longo regarding packaging contamination and evidence that Tremco’s Kinsman facility was found to have “high levels” of asbestos fibers in its “dust counts.” We disagree with plaintiffs’ arguments on this point.

¶ 85 The record reflects that Tremco’s Kinsman facility manufactured roofing materials and not the products at issue in this case. Thus, high levels of asbestos fibers in air samples from that facility is not evidence that the packaging for Tremco’s 440 Tape and Mono caulk was contaminated during the manufacturing process at different facilities. Additionally, Dr. Longo’s testimony does not support plaintiffs’ theory of contamination. Dr. Longo stated he had no knowledge of “housekeeping” within the Tremco facilities that manufactured the products at issue, how raw asbestos was stored by Tremco, or air samples from Tremco’s manufacturing facilities. Dr. Longo further testified that he had not tested for contamination and stated as follows: “but based on the product itself and how it’s made, it’s not clear to me how [contamination] would really happen to any degree.” Given the evidence presented, plaintiffs’ assertion that decedent was exposed to raw asbestos fibers from Tremco’s manufacturing and packaging process is speculative and unsubstantiated.

¶ 86

B. Remaining Issues

¶ 87 On appeal, Tremco raises several other issues for review. However, given our finding that Tremco is entitled to a judgment *n.o.v.* based on the lack of evidence of substantial causation, we find it unnecessary to address those remaining issues.

¶ 88 III. CONCLUSION

¶ 89 For the reasons stated, we reverse the trial court's judgment.

¶ 90 Reversed.