



**COURT OF APPEALS
SECOND DISTRICT OF TEXAS
FORT WORTH**

NO. 2-08-198-CV

ROSEMARY SMITH, BRADY SMITH,
AND DONNA HUBBARD,
INDIVIDUALLY AND AS PERSONAL
REPRESENTATIVE OF THE HEIRS
AND ESTATE OF DORMAN SMITH,
DECEASED

APPELLANTS

V.

KELLY-MOORE PAINT COMPANY, INC.

APPELLEE

FROM THE 153RD DISTRICT COURT OF TARRANT COUNTY

OPINION

This is an appeal from a summary judgment in favor of appellee Kelly-Moore Paint Company, Inc. in this asbestos exposure products liability case.¹

¹ [☒](#) This court dismissed the Smiths' appeal against Bondex International, Inc. and RPM, Inc. in accordance with a joint motion by the Smiths, Bondex,

In a single issue, appellants Rosemary Smith, Brady Smith, and Donna Hubbard, Individually and as Personal Representative of the Heirs and Estate of Dorman Smith, Deceased (collectively, the Smiths), contend that the trial court erred by granting a no-evidence summary judgment on the ground that the Smiths failed to adduce sufficient evidence that Dorman had been exposed to chrysotile asbestos in Kelly-Moore's drywall joint compounds in a dose sufficient to have been a substantial factor in causing his mesothelioma.

Background Facts

Dorman began working in the construction business, specifically as a self-employed drywaller finisher using joint compound, around 1955, and he performed the same type of work through the mid 1980s. Doctors eventually diagnosed him with mesothelioma in early 2005. As a result, the Smiths sued several defendants, including Kelly-Moore, in Tarrant County, claiming that exposure to the asbestos in those defendants' joint compound products proximately caused Dorman's mesothelioma. Dorman died after filing suit, on December 9, 2005.

The case was transferred to the 11th District Court, the Texas multidistrict litigation pretrial court. *See* Tex. Civ. Prac. & Rem. Code Ann.

and RPM. No. 02-08-00198-CV, 2009 WL 2356855, at *1 (Tex. App.—Fort Worth July 30, 2009, no pet.).

§ 90.010(a) (Vernon Supp. 2009); Tex. R. Jud. Admin. 13, *reprinted in* Tex. Gov't Code Ann. tit. 2, subtit. F app. (Vernon Supp. 2009). Before trial, Kelly-Moore moved for both a no-evidence and traditional summary judgment, contending that the Smiths had presented no evidence that Dorman's exposure to any of Kelly-Moore's chrysotile asbestos-containing joint compound product caused his mesothelioma, under the test set forth in the supreme court's opinion in *Borg-Warner Corp. v. Flores*, 232 S.W.3d 765 (Tex. 2007).² The 11th District Court granted Kelly-Moore's no-evidence motion for summary judgment and transferred the remaining claims back to the 153rd District Court in Tarrant County for trial; however, the remaining claims against the other defendants were either settled or dismissed, making the summary judgment final. The Smiths then appealed the summary judgment ruling in favor of Kelly-Moore.

² [↑](#) Kelly-Moore challenged the Smiths' evidence as to specific causation only: whether Kelly-Moore's asbestos-containing product caused Dorman's mesothelioma. They did not challenge the evidence as to general causation, i.e., that Kelly-Moore's asbestos-containing joint compound is capable of causing mesothelioma in the general population. *See Merrell Dow Pharm., Inc. v. Havner*, 953 S.W.2d 706, 714 (Tex. 1997), *cert. denied*, 523 U.S. 1119 (1998); *Georgia Pac. Corp. v. Stephens*, 239 S.W.3d 304, 308 (Tex. App.—Houston [1st Dist.] 2007, *pet. denied*).

No-Evidence Summary Judgment Standard of Review

After an adequate time for discovery, the party without the burden of proof may, without presenting evidence, move for summary judgment on the ground that there is no evidence to support an essential element of the nonmovant's claim or defense. Tex. R. Civ. P. 166a(i). The motion must specifically state the elements for which there is no evidence. *Id.*; *Timpte Indus., Inc. v. Gish*, 286 S.W.3d 306, 310 (Tex. 2009). The trial court must grant the motion unless the nonmovant produces summary judgment evidence that raises a genuine issue of material fact. *See* Tex. R. Civ. P. 166a(i) & cmt.; *Hamilton v. Wilson*, 249 S.W.3d 425, 426 (Tex. 2008).

When reviewing a no-evidence summary judgment, we examine the entire record in the light most favorable to the nonmovant, indulging every reasonable inference and resolving any doubts against the motion. *Sudan v. Sudan*, 199 S.W.3d 291, 292 (Tex. 2006). We review a no-evidence summary judgment for evidence that would enable reasonable and fair-minded jurors to differ in their conclusions. *Hamilton*, 249 S.W.3d at 426 (citing *City of Keller v. Wilson*, 168 S.W.3d 802, 822 (Tex. 2005)). We credit evidence favorable to the nonmovant if reasonable jurors could, and we disregard evidence contrary to the nonmovant unless reasonable jurors could not. *Timpte Indus., Inc.*, 286 S.W.3d at 310 (quoting *Mack Trucks, Inc. v. Tamez*, 206 S.W.3d 572, 582

(Tex. 2006)). If the nonmovant brings forward more than a scintilla of probative evidence that raises a genuine issue of material fact, then a no-evidence summary judgment is not proper. *Smith v. O'Donnell*, 288 S.W.3d 417, 424 (Tex. 2009).

Issue on Appeal—Specific Causation

The ground raised in Kelly-Moore's no-evidence summary judgment motion—and therefore the issue on appeal—is whether the Smiths produced sufficient evidence that Dorman was exposed to chrysotile asbestos from Kelly-Moore's joint compound product at an exposure level or dose sufficient to have been a substantial factor in his developing mesothelioma. According to Kelly-Moore's no-evidence summary judgment motion, the Smiths did not produce any credible evidence of (1) the amount of chrysotile asbestos from Kelly-Moore products to which Dorman had been exposed, (2) epidemiological studies of similarly situated persons showing that exposure to chrysotile asbestos in any amount would double the risk of developing mesothelioma, or (3) a minimum threshold exposure to asbestos above which an increased risk of developing mesothelioma occurs. Thus, Kelly-Moore contends that the Smiths did not bring forward sufficient evidence of specific causation under the test set forth by the Texas Supreme Court in *Borg-Warner v. Flores* and applied in a similar fact scenario by the Houston Fourteenth Court of Appeals in *Georgia Pacific*

Corp. v. Stephens. At oral argument, Kelly-Moore clarified that it was relying on the distinction between chrysotile and other types of asbestos;³ in other words, Kelly-Moore contends that although the Smiths may have brought forward at least some sufficient evidence that exposure to amphibole or other types of asbestos in the amount to which Dorman was exposed leads to an increased risk of mesothelioma, they brought forward no evidence that exposure to only chrysotile asbestos would amount to such an increased risk. Kelly-Moore further contends that there is no evidence in the record of a minimum threshold of chrysotile above which a person is at increased risk of developing mesothelioma.

Specific Causation in Asbestos Cases

In *Borg-Warner v. Flores*, an automobile mechanic sued Borg-Warner and others claiming that the dust generated by the grinding of asbestos-containing brake pads caused his asbestosis. 232 S.W.3d at 766. In reviewing the intermediate appellate court's determination that Flores had brought forward

³ [▲](#) There are six different types of asbestos; chrysotile is the most abundant type of asbestos fiber and is a serpentine fiber consisting of "pliable curly fibrils which resemble scrolled tubes." *Borg-Warner*, 232 S.W.3d at 766 n.4 (citing Lee S. Siegel, Note, *As the Asbestos Crumbles: A Look at New Evidentiary Issues in Asbestos Related Property Damage Litigation*, 20 Hofstra L. Rev. 1139, 1149 (1992)). The remaining five types are generally referred to as amphiboles.

legally sufficient evidence of causation at trial, the supreme court considered the appropriate causation standard to be applied in cases in which a plaintiff “claim[s] to be injured by an asbestos-containing product.” *Id.* at 768–69. The court held that in such cases, “we must determine whether the asbestos in the defendant’s product was a substantial factor in bringing about the plaintiff’s injuries.” *Id.* at 770. Because “exposure to asbestos, a known carcinogen, is never healthy but fortunately does not always result in disease,” a plaintiff must prove more than exposure to an asbestos-containing product to prove that a particular product was a substantial factor in bringing about his or her injuries. *Id.* at 770–71. To prove “substantial factor causation,” a plaintiff must show both frequent, regular, and proximate exposure to the product and reasonable quantitative evidence that the exposure increased the risk of developing the asbestos-related injury. *Id.* at 769–72; *Georgia Pac. Corp. v. Stephens*, 239 S.W.3d 304, 312 (Tex. App.—Houston [1st Dist.] 2007, pet. denied); see also *Lohrmann v. Pittsburgh Corning Corp.*, 782 F.2d 1156, 1162 (4th Cir. 1986). Epidemiological studies showing at least a doubling of the risk of disease upon exposure to asbestos have evidentiary significance only if “the injured person can show that ‘the exposure or dose levels were comparable to or greater than those in the studies.’” *Borg-Warner*, 232 S.W.3d at 771 (quoting *Havner*, 953 S.W.2d at 720–21). According to *Borg-Warner*, then, to

prove specific causation in an asbestos exposure case, there must be some evidence of an aggregate dose of exposure to the plaintiff that was a substantial factor in causing the asbestos-related disease; in other words, there must be some evidence that the dose to which the plaintiff was exposed exceeds a minimum dose, or “threshold,” at which an increased risk of developing the injury has been shown. *See Borg-Warner*, 232 S.W.3d at 770–73; *Stephens*, 239 S.W.3d at 312, 321.

The Fourteenth Court of Appeals applied the *Borg-Warner* “substantial factor causation” test in a suit brought by a commercial painter who alleged that his mesothelioma was caused by exposure to Georgia Pacific’s joint compound, which contained only chrysotile asbestos. *Stephens*, 239 S.W.3d at 306. In *Stephens*, a jury trial case, the plaintiff not only failed to provide legally sufficient evidence of frequent, regular, and proximate exposure to Georgia Pacific’s product, but he also failed to show a minimum dose at which an increased risk of mesothelioma from chrysotile-only asbestos exposure would occur. *Id.* at 321. *Stephens*’s experts testified instead that there is no minimum level of exposure to chrysotile asbestos below which an increased risk of injury does not occur, despite acknowledging that asbestos fibers are present in the ambient air we breathe, especially in urban areas; in other words, the experts testified that *any* exposure to chrysotile asbestos increases the risk of

injury. *Id.* at 314–15. The court of appeals held that *Borg-Warner* requires proof of more than “any exposure” as a minimum level to which the aggregate dose can be compared; otherwise, there is no way to determine whether the product was a substantial factor in causing the plaintiff’s mesothelioma as opposed to it being attributable to asbestos exposure in the ambient air. *Id.* at 321; see *Temple-Inland Forest Prods. Corp. v. Carter*, 993 S.W.2d 88, 95 (Tex. 1999).

Application of Substantial Factor Causation Test in Mesothelioma Cases

The Smiths first contend that the “substantial factor causation” test announced by the supreme court in *Borg-Warner* and applied by the Fourteenth Court of Appeals in *Stephens* is not applicable in every asbestos exposure case. Specifically, they contend that “*Borg-Warner* . . . did not create an absolute requirement in every asbestos case that [a] plaintiff produce quantitative evidence of ‘dose’ to each defendant’s product, as a condition precedent to a finding of liability.” They point out the difference between mesothelioma and asbestosis, which is the disease at issue in *Borg-Warner*. Asbestosis is a dose-related disease that is typically the result of either “long-term, high-level exposure to asbestos” or “relatively brief but extremely heavy exposure.” *Borg-Warner*, 232 S.W.3d at 771. It “appears to be dose-related, ‘so that the more one is exposed, the more likely the disease is to occur, and

the higher the exposure the more severe the disease is likely to be.” *Id.* (quoting 3 David L. Faigman et al., *Modern Scientific Evidence: The Law and Science of Expert Testimony* § 28.22, at 447 (2007)). In addition, there are over 100 causes of asbestosis. *Id.* at 766. On the other hand, the Smiths presented evidence that mesothelioma is a signature disease, meaning that it does not typically occur in the absence of asbestos exposure. See C.R. at 1706 (citing P. Boffetta, *Health Effects of Asbestos Exposure in Humans: a Quantitative Assessment*, *Med Lav* 89(6):471–80 (1998) (“Because of the rarity of the disease and the specificity of the causal association, all cases occurring among asbestos exposed workers are attributed to this exposure.”)). In addition, it is generally accepted that a person can develop mesothelioma from only low levels of asbestos exposure. *Borg-Warner*, 232 S.W.3d at 771 (citing 3 Faigman, *supra*). The Smiths contend that the nature of mesothelioma thus distinguishes this case from *Borg-Warner* so that the requirements of showing a total and threshold dose are not necessary.

Although it appears from both scientific literature and case law that the causative connection between mesothelioma and asbestos exposure is much more solidly linked than in cases of asbestosis and asbestos exposure, such that asbestos exposure in any amount other than general background levels

would appear to be causative of mesothelioma,⁴ we cannot read *Borg-Warner*, and the test announced therein, so narrowly as to apply only to asbestosis or asbestos-exposure cases other than mesothelioma. The supreme court quite clearly states that the test it announces is the standard to be applied in cases in which a plaintiff “claim[s] to be injured by an asbestos-containing product.” *Id.* at 768–69. The court did not distinguish among different diseases caused by asbestos exposure, nor among different types of asbestos. Thus, we conclude and hold – as we must, being bound by supreme court precedent – that a plaintiff in a mesothelioma suit that he or she claims is caused by an asbestos-containing product must prove the elements set forth in *Borg-Warner’s* “substantial factor causation test”: specifically, an aggregate dose of exposure from the defendant’s product and a minimum threshold dose above which an increased risk of developing mesothelioma occurs. *See Stephens*, 239 S.W.3d

⁴[☐](#) Other jurisdictions have recognized the need for taking into account the nature of the plaintiff’s asbestos related disease in determining causation. *See, e.g., Purcell v. Asbestos Corp.*, 959 P.2d 89, 94 (Or. Ct. App. 1998) (declining to adopt the *Lohrmann* test but noting that “even the jurisdictions that follow the frequency, regularity, and proximity test apply it less rigidly when dealing with mesothelioma, because it can be caused by very minor exposures”), *opinion modified on nondispositive grounds*, 963 P.2d 729 (1998); *Wehmeir v. UNR Indus., Inc.*, 572 N.E.2d 320, 337 (Ill. App. Ct. 1991) (stating that in applying the *Lohrmann* factors, each case will stand on its facts and pointing out the difference in exposure levels needed to cause mesothelioma and asbestosis).

at 312, 320–21; *see also Lubbock County, Tex. v. Trammel's Lubbock Bail Bonds*, 80 S.W.3d 580, 585 (Tex. 2002) (noting that once the supreme court announces a proposition of law, that proposition is binding precedent and may not be modified or abrogated by a court of appeals).

Thus, in this case, we must determine whether there is any evidence that would raise a genuine fact issue as to (1) the total dose of chrysotile asbestos from Kelly-Moore products to which Dorman was exposed and (2) whether that dose exceeds a minimum threshold dose above which an increased risk of developing mesothelioma occurs.

Dorman's Total Exposure to Kelly-Moore Joint Compound

Lay Witness Testimony

The Smiths attached excerpts from Dorman's deposition to their summary judgment response, in which he testified that as a drywall finisher, he "always" worked with joint compounds. He personally mixed, sanded, and swept the dust generated by the joint compound during mixing and sanding. He also breathed in a significant amount of that dust during those activities. During the mixing process, the dust would come right back up in his face and he would

breathe it.⁵ Dorman said he “looked like Frosty the Snowman after finishing a job.”

Dorman testified that he did thousands of drywall jobs over his career. Over that career, he used all the brands of joint compound “about the same.”⁶ According to Dorman, when he used Kelly-Moore product, he breathed in the dust the same as he would when he did jobs using other products. Dorman did not know when he first started using Kelly-Moore joint compound, but he stopped using it in the mid to late 1970s, after Kelly-Moore had removed asbestos from its products.

Dorman’s son Brady Smith worked with him from the late 1960s to the 1970s. He testified in his deposition that when he worked with his father, they only used Kelly-Moore ready mixed product (so the only dust would be generated from sanding and sweeping). According to Brady, they used Kelly-Moore product on a “pretty regular basis,” but the amount could vary, and they used it a little less than others because of the price.

⁵ [▲](#) Dorman used both quick and non quick set joint compound (one creates dust when mixing, and the other is premixed so the only dust is from sanding and sweeping). But in the beginning of his career, he “always mixed it.”

⁶ [▲](#) When asked which product he used the most, Dorman answered, “All of them,” and “[w]hatever was closest for me to get, that’s what I bought.”

According to Brady, he and his father spent the majority of their time working in residential tract homes and apartment buildings; they spent about 10 percent of their work time on commercial projects. Brady estimated they spent 10 percent of the work week sanding—and fifteen percent mixing and sweeping—joint compound. An average house they worked in would be a three-bedroom, two-bath with about 1400 to 1800 square feet; the average size of the bedrooms was about 10 x 10, the average size of the bathrooms 6 x 6, and the average size of the dining and living areas about 15 x 12. The apartments they worked in were about 800 to 900 square feet with 10 x 10 bedrooms and 20 x 20 kitchen/living/dining combination areas.

Expert Testimony

Dr. Ronald Dodson performed a tissue burden analysis on Dorman's lung tissue after he died. The Smiths provided deposition excerpts in which Dr. Dodson testified that he found silica, talc, glass, and chrysotile fibers in Dorman's lung tissue. He could not tell when any of the chrysotile fibers were deposited into the lung tissue. All of the chrysotile fibers he observed were longer than what he would expect to find in the lungs of the general population, i.e., those who had only had background exposure, and not occupational exposure, to asbestos.

The Smiths also attached deposition excerpts from a defendant's expert, Patricia Hall, a certified industrial hygienist, in which she estimated that as a "worst-case estimate," Dorman had a total exposure to asbestos-containing joint compounds of six years,⁷ working with joint compound at least fifty percent of the day, amounting to a total exposure of 9-15 fibers/cc year over the course of his career. However, Hall disputed that this amount of exposure correlates to any increased risk of mesothelioma if all of that exposure was to chrysotile asbestos only.

The Smiths further presented an affidavit and deposition testimony from Dr. William Longo, who performed fiber release studies measuring the effects of mixing, sanding, and sweeping up the dust from various joint compounds in a laboratory setting. The dry powder Kelly-Moore product he tested contained 8% chrysotile.⁸ Dr. Longo measured Kelly-Moore joint compound as emitting an average of 1.2 fibers/cc for mixing, 1.6 fibers/cc for sanding, and 1.3 fibers/cc for sweeping. Thus, in a job in which Dorman mixed, sanded, and

⁷ [▲](#) Hall's opinion was in the context of determining what Dorman's exposure to Sherwin Williams's products might have been.

⁸ [▲](#) In answering the Smiths' interrogatories, Kelly-Moore provided a chart showing that its dry powder joint compounds contained between 0 and 8.3 percent chrysotile asbestos. But Dr. Longo points out in his affidavit that he never tested a Kelly-Moore joint compound that contained zero or "a wide range" of chrysotile.

swept Kelly-Moore joint compound, he would have been exposed to an average of 4.1 fibers/cc, which exceeds the 1976 OSHA recommended limit of 2 fibers/cc (this permissible exposure level (PEL) was further reduced by OSHA in the 1990s to .1 fiber/cc for all asbestos fiber types). Dr. Longo also opined that a real world exposure would have been higher because a person working on a typical dry wall finishing project would use around 25 bags of mix and sand an entire room as opposed to five linear feet sanded in Dr. Longo's tests.

Conclusion

Considering this evidence in the light most favorable to the Smiths, there is at least a fact question as to how often Dorman used (and was therefore exposed to) Kelly-Moore joint compound as opposed to other companies' joint compounds; because he testified that he used it "about the same" as any other, it is possible to roughly estimate his total use of Kelly-Moore product as a fraction of the total estimated use divided by the number of products he allegedly used. Based on these facts, the Smiths at least raised a genuine issue of material fact as to the aggregate dose of Kelly-Moore asbestos-containing joint compound (and total asbestos fibers) to which Dorman was exposed. Accordingly, we conclude and hold that the Smiths raised a genuine issue of material fact as to the *Lohrmann* factors (frequency, regularity, and proximity). We must next determine whether they raised a genuine issue of

material fact as to whether the total dose of chrysotile asbestos to which Dorman was exposed exceeds a minimum dose above which mesothelioma does not occur. See *Borg-Warner*, 232 S.W.3d at 770–73; *Stephens*, 239 S.W.3d at 312, 321.

**No Evidence of Minimum Dose of Chrysotile at Which Increased Risk
of Developing Mesothelioma Occurs**

Dr. Arnold Brody, a research scientist in lung biology and lung pathology, averred in an affidavit that “[a]ll of the asbestos varieties have been shown to cause genetic errors[,] and fibers less than five microns can bind DNA and thus contribute to the development of genetic damage. . . . Exposure to asbestos fibers of all types and lengths should be considered in assessing a person’s risk of developing mesothelioma.” However, he did not opine as to how much asbestos Dorman had been exposed to or what a minimum exposure at which a person’s risk of mesothelioma increases might be. Thus, his opinion only goes to general causation. See *Havner*, 953 S.W.2d at 714; *Stephens*, 239 S.W.3d at 308.

Another of the Smiths’ experts, Dr. John Maddox, who is board certified in anatomical and clinical pathology and hematology, concluded that Dorman breathed substantial amounts of dust from the products of each of the defendants and that these exposures were a substantial contributing factor in

the development of his mesothelioma. According to Dr. Maddox, “[b]ecause asbestos dust is so strongly associated with mesothelioma, proof of significant exposure to asbestos dust is proof of specific causation.” Dr. Maddox opined that it is generally accepted in the scientific community that there is no minimum level of exposure to asbestos “above background levels” below which adverse effects do not occur. In fact, he stated that “[a]ttempts to define any such a minimum level of exposure above background levels of asbestos have been dismissed as ‘logical nonsense.’”⁹ He estimated a mean background level at .0003 to .0004 fibers/cc, which is well below Dorman’s estimated total exposure. *See, supra*, Conclusion.

According to Dr. Maddox, “[t]he overwhelming world scientific consensus is that dust from all three commercial types of asbestos - amosite, crocidolite and chrysotile - are all capable of causing diffuse mesothelioma.” However, the literature upon which Dr. Maddox relied is inconclusive regarding the effect of exposure to only chrysotile fibers; while studies have shown increased risks of mesothelioma in chrysotile miners and millers and in people living in chrysotile mining areas, researchers have hypothesized that this may be because the

⁹ [Dr. Maddox](#) opined that “while there is no known safe level of exposure to asbestos that will protect against mesothelioma, it is generally accepted that there is such a threshold for asbestosis.”

chrysotile was mixed with other types of fibers.¹⁰ Additionally, the studies showing an increased incidence of mesothelioma in these populations did not attempt to extrapolate any minimum dose of chrysotile to which these populations were exposed. Most of the studies agree that amphibole fibers are considered more potent than chrysotile fibers in terms of causing mesothelioma.¹¹ Moreover, at least one study notes that mesothelioma is rare, even among populations exposed only to chrysotile.¹²

¹⁰ [▲](#) And one study noted, “In some studies . . . workers exposed to only chrysotile asbestos have shown no increased risk of lung cancer As a consequence, researchers have implicated not chrysotile per se but a contaminant amphibole fiber as the specific cause of lung cancer . . . and malignant mesothelioma.”

¹¹ [▲](#) One study found the risk of mesothelioma to be 1:100:500 for chrysotile, amosite, and crocidolite, respectively. Patricia Hall stated in her deposition testimony that her “understanding of the literature is that chrysotile asbestos is not associated with an increased risk of mesothelioma unless the dose, the cumulative dose, is so massive as to be able to cause asbestosis. So we’re looking at high numbers. . . . There are . . . some numbers that are presented in the literature that the . . . dose of chrysotile to produce asbestosis is in the range of 100 to 200 fiber years. So it takes a sufficient dose in order to be able to cause asbestosis with just a chrysotile exposure. It takes a significant dose.” Dr. Dodson acknowledged in his deposition that some scientists believe that amphiboles and chrysotile are equally potent, but others believe amphiboles are more potent than chrysotile. He agreed that it would be reasonable to say that most scientists and researchers would opine and do opine in the peer-reviewed literature that amphiboles are more potent than chrysotile.

¹² [▲](#) Another study indicates that environmental exposure to asbestos is also associated with mesothelioma.

Dr. Maddox cited OSHA regulations for the proposition that chrysotile is capable of causing mesothelioma. Current OSHA PELs for all fiber types are .1 fiber/cc; Dorman's estimated exposure clearly exceeded those levels. However, even the comments to the OSHA guidelines acknowledge that chrysotile studies are inconclusive as to what level of chrysotile creates an elevated risk of mesothelioma but nevertheless conclude that the PEL for chrysotile should be the same as for all other fiber types because asbestos is so dangerous and clearly has adverse effects.¹³

To support his opinion that Dorman's exposure to chrysotile was a substantial factor in causing his mesothelioma, Dr. Maddox points specifically to a study that found a proportionate mortality ratio of 2.03 for mesothelioma deaths among plasterers in England. According to Dr. Maddox, the plasterers were "individuals who used joint compounds that contained chrysotile asbestos." But the copy of the study attached to his affidavit does not mention the nature of the work done by the plasterers, nor does it differentiate among

¹³[▲](#) The regulations note that "although there is some evidence linking chrysotile to a lower mesothelioma rate than some amphibole fiber types, OSHA believes that there is insufficient evidence to show that chrysotile does not present a significant mesothelioma risk to exposed employees." 29 C.F.R. Part 1910, Occupational Exposure to Asbestos: Final Rule (Aug. 10, 1994). Exposure above the OSHA levels cannot be used as evidence of negligence per se, however. *See McClure v. Denham*, 162 S.W.3d 346, 353 (Tex. App. — Fort Worth 2005, no pet.).

asbestos fibers. Because there is insufficient information to compare the exposure or dose levels of the plasterers to Dorman's, this study cannot be relied on as statistically significant in determining specific causation of Dorman's mesothelioma. See *Borg-Warner*, 232 S.W.3d at 771–72.

The Smiths rely on several specific studies in their reply brief, arguing that they provide at least a scintilla of evidence as to the minimum threshold value required by *Borg-Warner*. The Selikoff studies measured the potential amount of fibers to which a worker using joint compound in the same manner as Dorman would have been exposed, but those studies did not “attempt to correlate the exposures to any incidence of mesothelioma or asbestos-related disease among the study subjects.” See *Stephens*, 239 S.W.3d at 317. And a study by Iwatsubo showing a four-fold increase of mesothelioma at an exposure level of .5 fibers/cc, and a study by Rodelsperger showing a 7.9 odds ratio of an increased risk of mesothelioma at cumulative exposures between 0.0 and .15 fibers/cc year, both fail to provide the minimum dose evidence required under *Borg-Warner*: neither study differentiates among fiber types.

Dr. Maddox further relies on the results of “molecular biological studies, animal experiments, epidemiological studies, case reports, and asbestos tissue burden studies.” Specifically, he notes that in one study, “151 human malignant diffuse mesothelioma cases were identified and characterized by

high-resolution analytical electron microscopy. Chrysotile alone, with no amphiboles, was found in the lungs in over 23% of the cases. In those cases where the mesothelioma only was examined, 77% contained only chrysotile.” Although this example clearly shows that chrysotile is capable of causing mesothelioma, as evidenced by its presence in the decedents’ lung tissue, there is no indication in the literature as to the approximate dose of chrysotile that the studied decedents were exposed to. Thus, this study cannot be relied on to show specific causation as to Dorman. See *Borg-Warner*, 232 S.W.3d at 771–72. Moreover, there is no evidence of any attempt to correlate the dosages in the animal studies to an approximate exposure level in humans, and none of the epidemiological studies show a minimum threshold of chrysotile exposure from which to measure whether Dorman had an elevated risk of mesothelioma.

It appears well-established in the scientific literature presented by the Smiths that there is a threshold dose above which a person has an elevated risk of developing *asbestosis* from chrysotile-only exposure. But that same evidence does not support a minimum threshold dose for chrysotile only exposure that would increase one’s risk of developing *mesothelioma*. Some of these same studies upon which Dr. Maddox relies are the ones examined and found lacking in *Stephens*. See 239 S.W.3d at 316. Thus, even though the Smiths raised

a fact issue as to the *Lohrmann* factors (whereas evidence as to those factors was lacking in *Stephens*), the Smiths' evidence ultimately suffers the same defect as the plaintiff's in *Stephens*: "[w]ithout . . . scientific evidence of the minimum exposure level leading to an increased risk of development of mesothelioma" from exposure to chrysotile-only asbestos, such as that contained in Kelly-Moore's joint compound, Dr. Maddox's opinion lacks "the factual and scientific foundation required by *Borg-Warner*" and, thus, is insufficient to raise a fact issue as to specific causation. *Id.* at 321. We therefore must overrule the Smiths' sole issue.

Conclusion

Having overruled the Smiths' sole issue, we affirm the trial court's judgment.

TERRIE LIVINGSTON
JUSTICE

PANEL: LIVINGSTON, MCCOY, and MEIER, JJ.

DELIVERED: February 25, 2010