No. 10-0775

IN THE SUPREME COURT OF TEXAS

SUSAN ELAINE BOSTIC, INDIVIDUALLY AND AS PERSONAL REPRESENTATIVE OF THE HEIRS AND ESTATE OF TIMOTHY SHAWN BOSTIC, DECEASED; HELEN DONNAHOE, AND KYLE ANTHONY BOSTIC,

Petitioners,

v.

GEORGIA-PACIFIC CORPORATION,

Respondent.

From the Fifth Court of Appeals, Dallas, Texas

RESPONSE TO PETITION FOR REVIEW

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STATEMENT OF THE CASE

Nature of Case: This case arises from Timothy Bostic's death from mesothelioma, which was allegedly caused by his exposure to asbestos from a variety of sources, including his alleged use of joint compound containing asbestos that was manufactured by Georgia-Pacific Corporation. CR 25-65. Plaintiffs brought wrongful death claims and a survival action against Georgia-Pacific and 47 other defendants for negligence, strict liability, and gross negligence. *Id.* All defendants other than Georgia-Pacific either settled or were dismissed. *See* CR 25-65, 159-71.

First Trial: Honorable Judge Sally Montgomery, County Court at Law No. 3 of Dallas County, Texas, first tried this case in 2005. The jury returned a verdict against Georgia-Pacific and awarded Plaintiffs $2.4 million in actual damages and $6.2 million in punitive damages. CR 110-20. Judge Montgomery required Plaintiffs to elect between a new trial or remittitur. CR 147. Plaintiffs elected a new trial. CR 148-49.

Second Trial: During the second trial in 2006, the jury witnessed one of the Plaintiffs —Timothy Bostic's father—collapse in the hallway following his direct examination; Judge Montgomery and a juror rendered emergency aid to him. 9 RR 160-72; 10 RR 4-6. Mr. Bostic died the next day.

Having had no opportunity to cross-examine Mr. Bostic and given the prejudice likely to arise from this incident, Georgia-Pacific moved for a mistrial. CR 172-91; 9 RR 162-72; 10 RR 4-27. Judge Montgomery refused to rule on the motion, 10 RR 16-27, 256-302. Instead, a week later, she instructed the jury to disregard Mr. Bostic's live testimony in favor of his testimony from the first trial, 12 RR 12-13. That testimony, which was read into the record, 12 RR 13-144, included his statement that he "just wanted to die" because of his son's death, 12 RR 58.

Jury Verdict: The jury found Georgia-Pacific and Knox Glass—a nonparty and a former employer of Timothy Bostic—negligent and Georgia-Pacific strictly liable for Timothy's injuries and awarded $7,554,907 in actual damages. CR 198-217; *see* Tab E. The jury found Georgia-Pacific 75% responsible and Knox Glass 25% responsible. CR 205-06. The jury also found that Georgia-Pacific was grossly negligent and awarded $6,038,910 in punitive damages. CR 214-15.

Motion to Recuse: After the verdict, Georgia-Pacific was permitted to question the jury and court personnel. 16 RR 121-66. Georgia-Pacific then discovered evidence of questionable conduct by one juror, the bailiff, and the trial judge that called the integrity of the trial into question. *See* 16 RR 121-66, 218-29, 231-60, 323-33, 336-76. Georgia-Pacific filed a motion to recuse Judge Montgomery. CR 218-29. On July 26, 2006, Judge M. Kent Sims granted the motion to recuse. CR 334.

Case Transferred: The case was transferred to Judge Russell H. Roden, County Court at Law No. 1. CR 335. Georgia-Pacific filed a supplemental motion for mistrial. CR 336-76. In December 2006, the court granted Georgia-Pacific's motion for mistrial and ordered a new trial. CR 439 (Tab D).

New Trial Court's Disposition: In January 2007, D'Metria Benson was sworn in as the new judge of County Court of Law No. 1. In February 2008, Plaintiffs filed a motion for vacatur of Judge Roden's order granting the new trial and for entry of judgment. CR 440-647.

On July 18, 2008, Judge Benson granted Plaintiffs' motion to vacate, CR 1222-23 (Tab C), and, on July 23, 2008, rendered a final judgment based on the two-year-old jury verdict from May 2006. CR 1224-29. On October 22, 2008, the court rendered an amended final judgment, awarding $7,554,907 in compensatory damages and $4,832,128 in punitive damages against Georgia-Pacific. SCR 5-9 (Tab B).

Court of Appeals: Fifth Court of Appeals at Dallas; Justices David Bridges, Kerry P. Fitzgerald, and Robert M. Fillmore. Justice Fillmore authored the unanimous opinion. *Georgia-Pacific Corp. v. Bostic*, 320 S.W.3d 588 (Tex. App.—Dallas 2010, pet. filed).

Appellate Disposition: The court of appeals concluded that there was no evidence of causation, reversed the trial court's amended judgment, and rendered judgment that Plaintiffs take nothing on their claims against Georgia-Pacific.[1]

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[1] In their petition, Plaintiffs have not raised an issue challenging the court of appeals's reversal of the award of $4.8 million in punitive damages or the court's judgment that they take nothing on their punitive damage claims. Any complaint regarding the reversal of the award of punitive damages has been waived. *See* TEX. R. APP. P. 53.2(f); *Guitar Holding Co. v. Hudspeth Cnty. Underground Water Conservation Dist. No. 1*, 263 S.W.3d 910, 918 (Tex. 2008). In any event, there was no evidence—much less clear and convincing evidence—to support the jury's finding of gross negligence against Georgia-Pacific.

RECORD REFERENCES

The clerk's record will be referenced by page number, *e.g.*, "CR 1." The clerk's supplemental record will be referenced by page number, *e.g.*, "SCR 1." The reporter's record will be referenced by volume number followed by page number, *e.g.*, "4 RR 16." Plaintiffs' exhibits in volumes 20 through 34 of the reporter's record will be referenced by "PX" followed by exhibit number, *e.g.*, "PX-1." Defendants' exhibits in volumes 34 through 37 of the reporter's record will be referenced by "DX" followed by exhibit number, *e.g.*, "DX-1."

The trial court also admitted certain exhibits, labeled "Court Exhibits," solely for the trial court's consideration—*i.e.*, the exhibits were not admitted for consideration by the jury during deliberations. Plaintiffs' Court Exhibits will be referenced by "PCX" followed by exhibit number, *e.g.*, "PCX-1." Defendant's Court Exhibits will be referenced by "DCX" followed by exhibit number, *e.g.*, "DCX-1."

ISSUES PRESENTED

1. Whether the court of appeals correctly concluded that there was no evidence that Georgia-Pacific's asbestos-containing joint compound was a producing or proximate cause of Timothy Bostic's mesothelioma for any of the following reasons:

    a. Plaintiffs' expert's relied upon the "each and every exposure" theory of liability that was rejected by this Court in *Flores*;

    b. There is no evidence that Timothy's exposure to Georgia-Pacific's asbestos-containing joint compound was "frequent, proximate, and regular"; and

    c. There is no quantitative evidence of Timothy's exposure to asbestos fibers from Georgia-Pacific's asbestos-containing joint compound and no evidence that his exposure was sufficient to increase his risk of developing mesothelioma.

Alternative Ground for Affirming the Court of Appeals's Judgment Pursuant to Texas Rule of Appellate Procedure 53.3(c)(2)

2. Whether the court of appeals erred by concluding that Timothy Bostic was actually exposed to Georgia-Pacific's asbestos-containing joint compound. [Unbriefed]

Alternative Grounds Establishing Georgia-Pacific's Right to a New Trial Pursuant to Texas Rule of Appellate Procedure 53.3(c)(3)

3. Whether the trial court abused its discretion by refusing to grant a new trial when Plaintiff Harold Bostic collapsed outside the courtroom after his emotional direct testimony, and the trial judge and a juror rendered emergency aid to him. [Unbriefed]

4. Whether the trial court abused its discretion by refusing to grant a new trial when Georgia-Pacific was denied its constitutional right to cross-examine Plaintiff Harold Bostic, who collapsed in front of the jury and died a few days later. [Unbriefed]

5. Whether the trial court abused its discretion by refusing to grant a new trial given the evidence of jury misconduct. [Unbriefed]

6. Whether the trial court abused its discretion by refusing to grant a new trial when Georgia-Pacific was denied its constitutional right to a fair and impartial jury trial. [Unbriefed]

INTRODUCTION

In its thorough opinion, the court of appeals applied the proper standard of review to the undisputed record evidence and correctly concluded that there was no evidence that Georgia-Pacific's asbestos-containing joint compound was a proximate or producing cause of Timothy Bostic's mesothelioma. The court of appeals's opinion does not, as Plaintiffs suggest, misstate the substantial factor causation test or depart from the Court's decision in *Borg-Warner v. Flores*, 232 S.W.3d 765 (Tex. 2007). The court simply rejected Plaintiffs' repackaged "each and every exposure" theory of liability—as mandated by *Flores*.

The court's opinion is the third in a growing line of cases that uniformly apply *Flores* in the mesothelioma context.[2] Far from "perpetrating confusion," *see* Pet. at viii, the court of appeals's opinion is in accord with its sister court's decisions interpreting *Flores*. The court's opinion correctly states and applies Texas law, and neither the opinion, nor the issues presented for review by Plaintiffs, warrant this Court's review.

STATEMENT OF FACTS

The court of appeals's opinion correctly states the facts. *See* TEX. R. APP. P. 53.2(g). Plaintiffs repeatedly accuse the court of appeals of misstating the record evidence, *see* Pet at 1-2; however, as the court recognized in its opinion, it is Plaintiffs' broad allegations of exposure to Georgia-Pacific's asbestos-containing joint compound that are, in fact, "belied" by the record evidence. *Bostic*, 320 S.W.3d at 599.

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[2] *See Smith v. Kelly-Moore Paint Co.*, 307 S.W.3d 829 (Tex. App.—Fort Worth 2010, no pet.); *Georgia-Pacific Corp. v. Stephens*, 239 S.W.3d 304 (Tex. App.—Houston [1st Dist.] 2007, pet. denied).

A. Timothy Bostic Was Exposed to Asbestos From Multiple Sources During His Life, Including His and His Father's Work at the Knox Glass Plant.

Timothy Bostic was diagnosed with mesothelioma in 2002 and died in 2003. 11 RR 47-69; DX-36.[3] From his birth in 1961, Timothy was repeatedly exposed to asbestos from multiple sources. 7 RR 165-99; 8 RR 15-42; 12 RR 24-93, 109-44; DX-33.

***Knox Glass*:** Timothy's father, Harold Bostic, worked at the Knox Glass Plant in Palestine, Texas, as a welder from around 1960 until the plant closed in 1984.[4] 12 RR 18, 67-68. Due to his direct contact with asbestos products as a welder, Harold was regularly exposed to asbestos fibers, which were carried home on his clothing—exposing Timothy to asbestos fibers from birth. 12 RR 68-73; 7 RR 176-77. Plaintiffs' experts testified that the exposure to asbestos fibers from Harold's work clothes could have contributed to Timothy's development of mesothelioma. 4 RR 182-83; 10 RR 167-68; 11 RR 48, 105-08.

For three summers, Timothy worked at Knox Glass, where he cut raw asbestos sheets, swept up asbestos-containing dust, cleaned up after asbestos pipe coverings were repaired, and wore asbestos gloves. 7 RR 171-75; 8 RR 21-23, 26-35; DX-33.

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[3] Mesothelioma is a relatively rare cancer whose only known environmental cause is exposure to asbestos. *See* 4 RR 99; 11 RR 23-25. Mesothelioma is a "dose-response" disease, meaning that the risk of developing the disease increases as the level of exposure to asbestos increases. 4 RR 94-95.

[4] Knox Glass is not a party to this suit. In 1988, Timothy and Harold participated in a medical study of workers from the Knox Glass Plant, *see* DX-42; 8 RR 37-38; 12 RR 63-66. The study revealed that 27% of those workers had already developed asbestos-related illnesses. 7 RR 57-59. Tests showed that Timothy and Harold had asbestos fibers in their lungs at that time. DX-42; 12 RR 63-66. In 1989, Timothy and Harold were members of a class that filed suit against Knox Glass. *Roger Dale Aills v. Knox Glass, Inc.*, Cause No. 34,425, in the 3rd Judicial District Court of Anderson County, Texas. In 1995—long before Timothy was diagnosed with mesothelioma—Timothy and Harold received settlements from, and executed full releases in favor of, Knox Glass. DCX-1. The trial court did not permit Georgia-Pacific to mention this lawsuit or the settlements received by Plaintiffs in front of the jury. 15 RR 246-301.

Welder's Assistant: In 1977 and 1978, Timothy worked as a welder's assistant for Palestine Contractors where he was exposed to asbestos gaskets and insulation. DX-33.

Remodeling: As a child, Timothy would often help his father with home remodeling jobs for family and friends on the weekends. 7 RR 178-85; 12 RR 24-144. They worked on one job at a time, and each job took approximately one year to complete. 12 RR 83. As he got older, Timothy began to do remodeling on his own. 7 RR 185-89; 12 RR 37, 132-33. As part of these jobs, he worked with joint compound manufactured by several different companies, including Georgia-Pacific. DX-33.[5]

B. From 1965 until 1977, Georgia-Pacific Manufactured and Sold Asbestos-Containing Joint Compound.

Asbestos has been used for centuries because of its heat-resistant characteristics. It was used in a variety of products in the United States until the 1980s.[6] Given its widespread use, there is a "background" level of asbestos present in the air in most urban areas of the world even today. *Flores*, 232 S.W.3d at 771.

In 1965, Georgia-Pacific bought the Bestwall Gypsum Company, which manufactured joint compound that contained a small percentage of chrysotile asbestos fibers. 8 RR 144.[7]

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[5] Joint compound, or drywall mud, is used to smooth seams and cover nail heads on drywall. 8 RR 153-55. Joint compound is spread in a thin coat on the wall and smoothed with a trowel or putty knife. 8 RR 153-57. After it dries, uneven areas are sanded. *Id.*

[6] Asbestos was used for fireproofing Navy ships during World War II, and in home construction products and auto parts, such as ceiling tiles, roof shingles, insulation, and brake pads. 5 RR 63-67. Through the 1960s, asbestos was used in common household items such as irons, toasters, and hair dryers. 6 RR 158.

[7] "Asbestos" is a commercial term that includes two different families of materials: serpentine and amphibole fibers. 4 RR 88-89. Georgia-Pacific's joint compound included a form of serpentine asbestos called chrysotile as a binding agent. 10 RR 227-29. Although it is well accepted in the scientific community

The Georgia-Pacific joint compound at issue contained 2 to 5 percent chrysotile until 1973, when several products were offered in an asbestos-free form. 9 RR 26. Georgia-Pacific did not manufacture or sell joint compound containing chrysotile after 1977. 9 RR 25.

C. Plaintiffs Sued Georgia-Pacific, Alleging that Timothy's Exposure to Joint Compound Caused His Mesothelioma; After the First Trial, Plaintiffs Opted for a New Trial Rather Than Accept a Remittitur.

At the time of his diagnosis, Timothy and his doctors believed that his mesothelioma was caused by his and his father's employment at Knox Glass. DX-36-37. By the time suit was filed, however, Plaintiffs identified more than 45 other potential sources of Timothy's asbestos exposure, including joint compound manufactured by Georgia-Pacific and others. CR 25-58. Following Timothy's death, Plaintiffs filed suit against Georgia-Pacific and 47 other defendants for negligence, strict liability, gross negligence, conspiracy, and fraud. CR 25-58. Knox Glass was not a defendant in this suit because Timothy's claims against Knox Glass had been settled and released years earlier. *See supra* n.5. All other defendants either settled or were dismissed from suit, leaving Georgia-Pacific as the lone defendant at trial.

In March 2005, the jury returned a verdict against Georgia-Pacific, awarding actual damages of $3,127,000 and punitive damages of $6.2 million. CR 110-20. After considering Georgia-Pacific's post-verdict motions, Judge Sally Montgomery required Plaintiffs to elect between a new trial or remittitur. CR 147. Plaintiffs elected a new trial. CR 148-49.

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that exposure to amphibole asbestos can cause mesothelioma, whether exposure to chrysotile can cause mesothelioma is the subject of heated scientific debate. 4 RR 99-100; 5 RR 95. Georgia-Pacific contends that chrysotile asbestos does not cause mesothelioma; however, for purposes of this appeal, Georgia-Pacific did not challenge the assumption that exposure to chrysotile can cause mesothelioma.

D. Timothy and Harold Could Not Recall Whether Timothy Used Georgia-Pacific's Chrysotile-Containing Joint Compound Between 1967 and 1977.

In the second trial before Judge Montgomery, the only evidence that Timothy worked with or around Georgia-Pacific's chrysotile-containing joint compound came from Timothy's deposition and his father's testimony. Timothy did not provide the specifics of any drywall work that he did while helping his father on the weekends with remodeling jobs for family and friends between 1967 (when Timothy was five years old) and 1977 (when Timothy was 15 years old and Georgia-Pacific no longer manufactured or sold joint compound containing chrysotile). 12 RR 23-39; 7 RR 178-82. Timothy did testify that he used Georgia-Pacific joint compound on numerous remodeling jobs after graduating from high school in 1980, 7 RR 166; 8 RR 17-18; 12 RR 39, but by that time, Georgia-Pacific no longer manufactured or sold chrysotile-containing joint compound. 9 RR 25.

His father, Harold, recalled three instances between 1967 and 1977 when he and his son possibly did any drywall work together. 12 RR 78-93, 109-37. Although Harold testified that he and his son used Georgia-Pacific joint compound "many, many times," 12 RR 33-34, he remembered using it on only one of these three jobs. On that job, Timothy worked on the sewer; Harold could not recall if Timothy did any drywall work. 12 RR 24, 33-34, 122-25, 136-37. Harold asked friends and family for help in recalling other remodeling jobs during this time period, but neither he nor they could recall any other jobs. 12 RR 143. After his direct testimony at the second trial, Harold collapsed in the hallway in front of the jury and

died the next day, without having been cross-examined by Georgia-Pacific. 9 RR 160.[8] This is the entirety of the exposure evidence that Plaintiffs mischaracterize as "ten years working with and around Georgia-Pacific asbestos joint compound." *See* Pet. at 1.

E. Plaintiffs' Causation Expert Opined That "Each and Every" Exposure to Asbestos Contributed to the Development of Timothy's Mesothelioma.

Plaintiffs presented four expert witnesses on causation at the second trial: Richard Lemen, Ph.D., an epidemiologist who testified regarding general causation, 5 RR 8-9; *see* 6 RR 66-67 (not specific causation); Arnold Brody, M.D., a cell biologist and experimental pathologist who testified on general causation, 4 RR 80-81 (not specific causation); Samuel Hammar, M.D., a pathologist who testified on specific causation and Timothy's diagnosis of mesothelioma, 11 RR 6-12, 45-48; and William Longo, Ph.D., an electron microscopist and material scientist who testified on how asbestos exposure occurs and the results of his testing of Georgia-Pacific joint compound, 10 RR 35-36; 10 RR 115 (not specific causation).

Dr. Hammar, the only expert who testified regarding the specific causation of Timothy Bostic's mesothelioma, testified that "each and every exposure" to friable asbestos fibers above background levels "had the potential to contribute to" the development of Timothy's

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[8] Judge Montgomery and a juror—Courtney Jackson, an emergency medical technician—rendered emergency assistance to Harold Bostic. 9 RR 165-66. Upon return to the courtroom, Judge Montgomery told the jury that Harold's collapse was due to "the stress of the testimony." 9 RR 162. Georgia-Pacific moved for a mistrial, 9 RR 162-73, but Judge Montgomery refused to rule on the motion. 9 RR 170-71. Harold died the next day, but Judge Montgomery still refused to rule on the motion because she was convinced that the jurors were unaware of Harold's death. She instead informed the jury that Harold was not available to return to court to be cross-examined, without any further explanation. 12 RR 12-13. One week later, she instructed the jury to disregard Harold's live testimony in favor of his testimony from the first trial, which was read into the record—including his statement that he "prayed to God to die" because of his son's death. 12 RR 12-13. Unbeknownst to Georgia-Pacific, Juror Jackson had already contacted a co-worker at his hospital, learned that Harold died, and told other jurors before they retired to deliberate. 16 RR 123-24, 130-40; 12 RR 58.

mesothelioma—regardless of the source. 11 RR 38-39, 48-51. When asked whether *any* of Timothy's exposures to asbestos could be excluded as a cause of his mesothelioma, Dr. Hammar said "no." 11 RR 51, 106-11, 145-46, 151-52. And when asked if he could opine that, without exposure to Georgia-Pacific's chrysotile-containing joint compound, Timothy would not have developed mesothelioma, Dr. Hammar again said "no." 11 RR 139.

F. Convinced by the Testimony Regarding "Each and Every" Exposure, the Jury Returned a Large Verdict, and the Trial Court Ultimately Entered a $12.38 Million Judgment Against Georgia-Pacific.

On July 26, 2006, the jury returned its verdict, finding Georgia-Pacific negligent and strictly liable for defectively marketing its joint compound. CR 202-03. The jury awarded Plaintiffs $7,554,907 in actual damages, finding Georgia-Pacific 75% responsible and Knox Glass 25% responsible. CR 198-217; *see* Tab E. The jury also found that Georgia-Pacific was grossly negligent and awarded $6,038,910 in punitive damages to Plaintiffs. CR 214-15.

After the verdict, Georgia-Pacific discovered evidence of questionable conduct by a juror, the bailiff, and the trial judge that called the integrity of the trial into question. 16 RR 121-66, 218-29, 231-60, 323-76. Georgia-Pacific filed a motion to recuse the trial judge, and on July 26, 2006, Judge M. Kent Sims granted the motion to recuse. CR 218-29, 334.

The case was transferred to Judge Russell H. Roden, County Court at Law No. 1. CR 335. Georgia-Pacific filed a supplemental motion for mistrial. CR 336-76. In December 2006, Judge Roden granted the motion for mistrial and ordered a new trial. CR 439 (Tab D).

In January 2007, the Honorable D'Metria Benson was sworn in as the new judge of County Court of Law No. 1. Plaintiffs filed a motion for vacatur of Judge Roden's order

granting the new trial and for entry of judgment on the July 2006 verdict. CR 440-647. On July 18, 2008, Judge Benson granted Plaintiffs' motion, *see* Tab C, and rendered a final judgment based on the two-year-old jury verdict. CR 1224-29. On October 22, 2008, the trial court rendered an amended final judgment, awarding $7,554,907 in compensatory damages and $4,832,128 in punitive damages against Georgia-Pacific. SCR 5-9 (Tab B).

The court of appeals concluded that there was no evidence of causation, reversed the trial court's judgment, and rendered judgment that Plaintiffs take nothing on their claims against Georgia-Pacific. *See Bostic*, 320 S.W.3d at 602.

ARGUMENT

I. THE SUBSTANTIAL FACTOR CAUSATION TEST SET FORTH IN *FLORES* REQUIRED PLAINTIFFS TO PROVE "BUT FOR" CAUSATION.

The court of appeals properly stated and applied Texas law by requiring that Plaintiffs prove that Georgia-Pacific's asbestos-containing joint compound "was a cause-in-fact of" Timothy's mesothelioma. *See Bostic*, 320 S.W.3d at 596. Challenging the court of appeals's opinion, Plaintiffs misstate the substantial factor causation standard and erroneously argue that *Flores* does not require proof that Timothy would not have developed mesothelioma "but for" his alleged exposure to Georgia-Pacific's asbestos-containing joint compound. *See* Pet. at 4-8. There is similarly no merit to Plaintiffs' argument that they need only prove frequent, regular, and proximate exposure to Georgia-Pacific's joint compound to satisfy the substantial factor causation standard. *See* Pet. at 4-5.

Negligence and defective marketing claims require proof of "proximate cause" and "producing cause" respectively. CR 200-01. Proximate and producing cause both require a plaintiff to show that use of a defendant's product was a "cause in fact" of his injuries. *See Gen. Motors Corp. v. Saenz*, 873 S.W.2d 353, 357 (Tex. 1993); *Stephens*, 239 S.W.3d at 311. This Court has repeatedly recognized that "cause in fact" is the same thing as "but for" causation. *See, e.g.*, *Transcon. Ins. Co. v. Crump*, 330 S.W.3d 211, 225 (Tex. 2010); *LMB, Ltd. v. Moreno*, 201 S.W.3d 686, 688 (Tex. 2006) (per curiam); *Marathon Corp. v. Pitzner*, 106 S.W.3d 724, 727 (Tex. 2003) (per curiam); *see also Tex. Indem. Ins. v. Staggs*, 134 S.W.2d 1026, 1030 (Tex. 1940) (recognizing that but-for causation is "something already included in the usual and ordinary meaning of the word 'cause'").

In *Flores*, this Court adopted the substantial factor causation test set forth in Section 431 of the *Restatement (Second) of Torts*. *Flores*, 232 S.W.3d at 770. As the comments to Section 431 make clear, "but for" causation is an element of substantial factor causation:

> In order to be a legal cause of another's harm, *it is not enough that the harm would not have occurred had the actor not been negligent. . . . [T]his is necessary,* but it is not of itself sufficient. The negligence must also be a substantial factor in bringing about the plaintiff's harm.

RESTATEMENT (SECOND) OF TORTS § 431 cmt. a (1965) (emphasis added). Indeed, in *Flores*, the Court emphasized that "[c]ommon to both proximate and producing cause is causation in fact, including the requirement that the defendant's conduct or product be a substantial factor in bringing about the plaintiff's injuries." *Flores*, 232 S.W.3d at 770. The Court expressly rejected the argument now made by Plaintiffs:

> We agree, with *Lohrmann*, that a "frequency, regularity, and proximity" test is appropriate, but those terms do not, in themselves, capture the emphasis that our jurisprudence has placed on causation as an essential element to liability.

Id. Thus, under *Flores*, to prove substantial factor causation, a plaintiff must prove that the harm would not have occurred "but for" the defendant's conduct. *See id.*[9] Thus, the court of appeals did not "misquote" *Flores* or "add 'but for' language" to the substantial factor causation test, as Plaintiffs contend. *See* Pet. at 4-5.

Plaintiffs also erroneously state that proving "but for" causation would require them to "trace the fibers from the defendant's product" and prove that those fibers were "the ones, or among the ones, that actually produced" the harm. *See* Pet. at 3, 6-8. Under the substantial factor causation test, however, a plaintiff must show that his exposure to a defendant's asbestos-containing product was sufficient to cause his injury—not that particular fibers from a defendant's product caused his injury. *Flores*, 232 S.W.3d at 770; *Smith*, 307 S.W.3d at 833; *Stephens*, 239 S.W.3d at 312.

Plaintiffs' effort to redefine substantial factor causation not only runs afoul of Texas law as set forth in *Flores*, but also speaks volumes regarding the failures of their causation

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[9] Plaintiffs attempt to limit *Flores* to its facts by arguing that *Flores* only requires proof of "but for" causation "where it is contested that asbestos caused the disease." *See* Pet. at 5. According to Plaintiffs, in mesothelioma cases like this one, where the only known environmental cause of the disease is exposure to asbestos, a plaintiff is not required to prove "but for" causation. This argument finds no support in *Flores* or Texas law, and the Fort Worth Court of Appeals has expressly rejected this argument. *See Smith*, 307 S.W.3d at 834 ("[W]e cannot read [*Flores*], and the test announced therein, so narrowly as to apply only to asbestosis or asbestos-exposure cases other than mesothelioma. . . . The court did not distinguish among different diseases caused by asbestos exposure . . . .").

Plaintiffs also quote Section 27 of the *Restatement (Third) of Torts* in support of their argument that "but for" causation "is not required in an asbestos case where multiple products may combine to cause a Plaintiff's disease." *See* Pet. at 7 n.3. Section 27 does not support this argument. Section 27 applies when there are two or more competing causes, and each cause is a cause in fact of the injury. RESTATEMENT (THIRD) OF TORTS § 27 cmt. a (2005).

proof. Dr. Hammar—Plaintiffs' only specific causation expert—admitted that he could not opine that Timothy Bostic would not have developed mesothelioma "but for" his exposure to Georgia-Pacific's joint compound. 11 RR 139. Dr. Hammar instead relied upon the discredited "each and every exposure" theory of liability.

II. PLAINTIFFS' EXPERTS RELIED UPON THE "EACH AND EVERY EXPOSURE" THEORY OF LIABILITY THAT HAS BEEN REJECTED BY THIS COURT.

The court of appeals reversed the judgment against Georgia-Pacific because Plaintiffs' causation evidence was based on the "each and every exposure" theory of liability. In *Flores*, this Court squarely rejected the "each and every exposure" theory of liability. *Flores*, 232 S.W.3d at 773. Plaintiffs do not challenge this holding. Rather, Plaintiffs contend that the court of appeals incorrectly decided that their causation experts relied upon this theory. *See* Pet. at 12. The record, however, confirms that the court of appeals got it right.

Dr. Hammar—Plaintiffs' only specific causation expert—relied solely upon the "each and every exposure" theory to establish causation:

> Q: And is it fair to say then that to a reasonable degree of medical possibility, that if somebody has mesothelioma that each and every exposure to asbestos that that person had would be a significant contributing factor to the development of mesothelioma?
>
> Hammar: I believe so, at least potentially a contributing factor, yes.
>
> * * *
>
> Q: In your opinion, do each and every exposure to asbestos that Timothy Bostic had from Georgia-Pacific joint compound materials, increase his total cumulative dose of asbestos that he had in his lungs?
>
> Hammar: Yes.

Q: And did each and every exposure that Timothy Bostic had to Georgia-Pacific joint compounds and wallboard materials increase his risk of mesothelioma?

Hammar: Yes.

* * *

Q: And can you discount, to the extent that Timothy Bostic had any exposure at the Knox Glass Plant, can you discount that in the role of mesothelioma?

Hammar: No.

Q: And is that consistent with your opinion that each and every exposure to asbestos is a contributing factor?

Hammar: Yes.

11 RR 40-41, 48-52; *see* 11 RR 80-83, 86, 89, 118-19. According to Dr. Hammar, "each and every exposure that [Timothy] had to asbestos, regardless of the source to the extent he had an exposure, that those were significant and contributing factors in the development of his mesothelioma." 11 RR 152-53. For Plaintiffs to state that their causation expert did not rely upon the discredited "each and every exposure" theory of causation is not credible.[10]

[10] Plaintiffs' epidemiologist—Dr. Lemen—also testified that "each and every exposure" to asbestos contributed to an increased risk of developing mesothelioma and stated that "each exposure that deposits asbestos fibers in one's lung adds to the fiber burden in the body and as such can increase the risk of developing an asbestos-related disease." 6 RR 75; *see* 5 RR 132; 6 RR 74-82, 110-12. Dr. Arnold Brody—a cell biologist and experimental pathologist who testified on general causation—similarly opined that "every time a person is exposed to asbestos from whatever the source is, some proportion of those fibers will concentrate in the lung and some of those fibers will reach that site where the disease develops. There's no way to exclude any of them. There's no way to extract any of them. So everything the person's exposed to is contributing and making it more likely that the person gets disease." 4 RR 94-95; *see* 4 RR 154, 168-72.

III. THE COURT OF APPEALS CORRECTLY APPLIED THE "NO EVIDENCE" STANDARD.

After an exhaustive review of the exposure evidence in the record, the court of appeals found that there was "limited" evidence of exposure to Georgia-Pacific joint compound,[11] but "insufficient evidence of Timothy's frequent and regular exposure to Georgia-Pacific's asbestos-containing joint compound during the relevant time period" to support the jury's causation findings. *Bostic*, 320 S.W.3d at 599. Plaintiffs maintain that the court of appeals conducted a flawed "no evidence" review and improperly "disregard[ed] evidence showing Timothy's significant exposure to Georgia-Pacific asbestos joint compound." *See* Pet. at 8-11. Specifically, Plaintiffs argue that the court should have credited Harold's testimony that he and Timothy worked with Georgia-Pacific joint compound "many, many times," which according to Plaintiffs, alone should have raised a "reasonable inference" that Timothy was exposed to asbestos from Georgia-Pacific asbestos-containing joint compound "on a regular, frequent, and proximate basis." *See* Pet. at 10. This argument also has no merit.

Under the no evidence standard of review, a court must consider all the evidence in the light most favorable to the challenged finding, crediting favorable evidence if reasonable jurors could and disregarding contrary evidence unless reasonable jurors could not. *City of Keller v. Wilson*, 168 S.W.3d 802, 827 (Tex. 2005). The court of appeals correctly stated and applied this no evidence standard. *See* 320 S.W.3d at 592.

As part of its review, the court specifically and accurately recited the alleged exposure

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[11] Georgia-Pacific disagrees with the court of appeals's conclusion regarding the existence of any evidence of any exposure to Georgia-Pacific asbestos-containing joint compound and asserts this argument as an alternative ground for affirming the court of appeals's judgment. *See* TEX. R. APP. P. 53.3(c)(2).

evidence, *see id.* at 592-95, and concluded that, "albeit limited," the record contained some evidence of Timothy's exposure to Georgia-Pacific asbestos-containing joint compound. *Id.* at 595. The court did not disregard any exposure evidence. Rather, the court considered all of the evidence—including the undisputed chronology of remodeling and construction jobs that Timothy worked on between 1967 and 1977, *see supra* pp. 5-6—and determined that this specific evidence belied Harold's conclusory statement that Timothy worked with Georgia-Pacific joint compound "many, many times." 320 S.W.3d at 599; *see Jackson v. Anchor Packing Co.*, 994 F.2d 1295, 1308 (8th Cir. 1993) (rejecting testimony regarding the use of asbestos-containing product "many times" as evidence of frequent and regular exposure).[12]

The court ultimately concluded that the exposure evidence was not sufficient to support the jury's finding that Timothy frequently used, or was exposed to, Georgia-Pacific's asbestos-containing joint compound between 1967 and 1977. 320 S.W.3d at 599. Nothing in the language of the court's decision suggests that it performed an improper no evidence review. Plaintiffs simply failed to present any evidence of frequency and regularity.

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[12] Plaintiffs rely upon Dr. Longo's studies on mixing, sanding, and sweeping Georgia-Pacific joint compound in a controlled environment as some evidence of Timothy's alleged frequent and regular exposure to asbestos fibers in excess of OSHA standards. *See* Pet. at 13-14. By Dr. Longo's own admission, however, merely testing the release of asbestos fibers from Georgia-Pacific chrysotile-containing joint compound in a laboratory does not provide any evidence of the level of Timothy's exposure, even assuming there was such exposure. Dr. Longo did not examine the amount of time that Timothy allegedly mixed or sanded joint compound or any of the other factors necessary to calculate dose. His testimony provides no "quantification" of the asbestos fibers to which Timothy was allegedly exposed while allegedly working with Georgia-Pacific asbestos-containing joint compound as required by Texas law. *See Flores*, 232 S.W.3d at 771-72. Moreover, OSHA regulations are immaterial. Texas law is well-settled that the "common law duties imposed by state law are not expanded by OSHA regulations." *McClure v. Denham*, 162 S.W.3d 346, 353 (Tex. App.—Fort Worth 2005, no pet.); *Abarca v. Scott Morgan Residential, Inc.*, 305 S.W.3d 110, 128 (Tex. App.—Houston [1st Dist.] 2009, pet. denied). Current OSHA regulations are also not relevant because they are 20 to 50 times higher than OSHA regulations in effect between 1967 and 1977.

IV. *FLORES* REQUIRED PLAINTIFFS TO SHOW QUANTITATIVE EVIDENCE OF TIMOTHY'S EXPOSURE TO GEORGIA-PACIFIC'S ASBESTOS-CONTAINING JOINT COMPOUND AND TO ESTABLISH THAT HIS EXPOSURE WAS SUFFICIENT TO INCREASE HIS RISK OF DEVELOPING MESOTHELIOMA.

In the remaining issues, Plaintiffs contend that the court of appeals erred by requiring them to present quantitative evidence regarding Timothy's exposure to asbestos fibers from Georgia-Pacific's joint compound or to demonstrate that Timothy's exposure was sufficient to increase his risk of developing mesothelioma. Pet. at 12-15. However, the substantial factor causation standard set out in *Flores* expressly required Timothy to present quantitative evidence of his exposure to asbestos fibers from Georgia-Pacific's asbestos-containing joint compound and to demonstrate that this exposure was sufficient to increase his risk of developing mesothelioma. *Flores*, 232 S.W.3d at 770-73; *see Smith*, 307 S.W.3d at 833; *Stephens*, 239 S.W.3d at 321. Plaintiffs failed to present such evidence.

Lacking the requisite evidence, Plaintiffs argue that the *Flores* evidentiary requirements are "unattainable" and point to *Stephens*, *Smith*, and this case as proof that the *Flores* substantial causation standard acts as "a complete bar" to recovery in mesothelioma claims. *See* Pet. at viii, 14. The fact that three courts of appeals have conducted a proper evidentiary review on the record before them and reversed a judgment does not mean that the courts of appeals have erred or that *Flores* represents an unattainable standard.

PRAYER

For all these reasons, the Court should deny the petition for review.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on March 18, 2011, a true and correct copy of this Response to Petition for Review was served on the following counsel of record via Federal Express:

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Tab A

Discussion

Hunt proved the expense it incurred in clearing and mowing the 7.96 acres by the memos and invoices. Hunt's own evidence shows that the work on the Chamberses' half was done "as a favor to Mr. Chambers." The same memo states, "We thought it would be in our best interest to help out Mr. Chambers by cleaning up his side."

This is consistent with Chambers's testimony that he was led to believe that Hunt buried the brush piles on his part of the tract as a favor for his cooperation. Brad Russell, Hunt's landman who testified to the clearing and mowing costs, conceded that he had no reason to disbelieve Chambers's testimony. Hunt, he told the court, had never previously asked the Chamberses to pay any part of the clearing and mowing costs, although most of the work had been done four years before.

[18] The party seeking to recover in quantum meruit must establish that the work done was accepted by the party to be charged "under such circumstances as reasonably notified the recipient that the plaintiff in performing expected to be paid by the recipient." *See Heldenfels Bros., Inc.*, 832 S.W.2d at 41.

There is an absolute absence of any evidence in this record indicating that Hunt expected to be paid for the work done on the Chamberses' part of the tract. The evidence, in fact, conclusively establishes the contrary. The Chamberses' third issue is sustained.

Conclusion

That part of the judgment granting specific performance of the option to purchase the 3.94 acres is ***affirmed.*** The award of damages to Hunt in the amount of $9,433.61 ($11,132.00 clearing and mowing costs less $1,698.39 taxes paid by Chambers attributable to the 3.94 acres) is ***reversed*** and judgment ***rendered*** that Hunt take nothing on its claim for clearing and mowing costs. Judgment is ***rendered*** awarding the Chambers $1,698.39 for taxes they paid on the 3.94 acres. The award of attorney's fees to Hunt is ***reversed,*** and the cause is ***remanded*** to the trial court for reconsideration of the amount of attorney's fees.

GEORGIA–PACIFIC CORPORATION, Appellant,

v.

Susan Elaine BOSTIC, Individually and as Personal Representative of the Heirs and Estate of Timothy Shawn Bostic, Deceased; Helen Donnahoe; and Kyle Anthony Bostic, Appellees.

No. 05–08–01390–CV.

Court of Appeals of Texas, Dallas.

Aug. 26, 2010.

Background: Drywall worker's family brought wrongful death, negligence, and strict products liability actions against drywall joint compound manufacturer alleging worker's death was cause by asbestos. After a second jury trial, the County Court at Law No. 1, Dallas County, D'Metria Benson, J., entered judgment for family. Manufacturer appealed.

Holdings: The Court of Appeals, Fillmore, J., held that:

(1) evidence existed that worker was exposed to asbestos-containing joint compound made by manufacturer, but

(2) evidence was legally insufficient to establish substantial-factor causation.

Reversed and rendered.

1. **Appeal and Error** ⇐1001(3)

When an appellant attacks the legal sufficiency of an adverse finding on an issue on which it did not have the burden of proof, it must demonstrate that no evidence supports the finding.

2. **Evidence** ⇐597

The final test for legal sufficiency must always be whether the evidence at trial would enable reasonable and fair-minded people to reach the verdict under review.

3. **Appeal and Error** ⇐930(1)

On a legal sufficiency challenge, appellate court reviews the evidence in the light most favorable to the verdict, crediting favorable evidence if reasonable jurors could and disregarding contrary evidence unless reasonable jurors could not.

4. **Products Liability** ⇐201, 380

Evidence existed that drywall worker was exposed to asbestos-containing joint compound made by manufacturer, supporting family's wrongful death claims against manufacturer following worker's contraction of mesothelioma; worker and his father testified that worker used manufacturer's joint compound from the age of five, worker's work history sheets asserted exposure to asbestos fibers from manufacturer's joint compound as a result of household exposure to father's clothing, father testified he used manufacturer's joint compound 98% of the time that he did drywall work, and father identified one specific project where manufacturer's joint compound was used.

5. **Negligence** ⇐404
Products Liability ⇐147, 217

In a toxic tort case, the plaintiff must show both general and specific causation.

6. **Negligence** ⇐404
Products Liability ⇐147, 217

In toxic tort context, "general causation" is whether a substance is capable of causing a particular injury or condition in the general population, while "specific causation" is whether a substance caused a particular individual's injury.

See publication Words and Phrases for other judicial constructions and definitions.

7. **Products Liability** ⇐147, 149

In products liability case, causation is an essential element of a claim for negligence and product marketing defect.

8. **Products Liability** ⇐147, 217

In products liability toxic tort case, proximate cause is an element of a negligence claim, while producing cause is an element of a strict liability claim.

9. **Negligence** ⇐404
Products Liability ⇐147, 217

In toxic tort case, both producing and proximate cause contain the cause-in-fact element, which requires that the defendant's act be a substantial factor in bringing about the injury and without which the harm would not have occurred.

10. **Negligence** ⇐380

To establish substantial-factor causation, a plaintiff must prove that the defendant's conduct was a cause-in-fact of the harm.

11. **Products Liability** ⇐147, 201

In asbestos cases, court must determine whether the asbestos in the defendant's product was a substantial factor in bringing about the plaintiff's injuries and

without which the injuries would not have occurred.

12. **Evidence** ⚖571(9)

Products Liability ⚖201, 390

Evidence was legally insufficient to establish substantial-factor causation necessary for maintaining negligence and product liability action against joint compound manufacturer regarding drywall worker's alleged asbestos exposure; plaintiffs' sole expert testified that he could not opine that worker would not have developed mesothelioma absent exposure to manufacturer's asbestos-containing joint compound, work history sheets did not tell the time or intensity of worker's exposure, and plaintiff's expert testimony did not establish an exposure level or dose to quantify worker's exposure to asbestos fibers from manufacturer's joint compound.

13. **Products Liability** ⚖147, 201

Each-and-every-exposure theory of causation was insufficient to establish substantial-factor causation in negligence and product liability action arising out of drywall worker's contraction of mesothelioma allegedly due to exposure to manufacturer's joint compound; plaintiff was instead required to prove that manufacturer's product was a substantial factor in causing the alleged harm.

Deborah G. Hankinson, Hankinson Levinger LLP, Dallas, TX, for Appellant.

Denyse Ronan Clancy, Dallas, TX, for Appellees.

Before Justices BRIDGES, FITZGERALD, and FILLMORE.

OPINION

Opinion By Justice FILLMORE.

Appellant Georgia–Pacific Corporation appeals the final judgment of the trial court in favor of appellees Susan Elaine Bostic, Individually and as Personal Representative of the Heirs and Estate of Timothy Shawn Bostic, Deceased, Helen Donnahoe, and Kyle Anthony Bostic. In three issues, Georgia–Pacific contends (1) there is legally insufficient evidence that Georgia–Pacific's joint compound caused Timothy Bostic's mesothelioma, (2) there is no evidence to support the jury's finding of gross negligence against Georgia–Pacific, and (3) the trial court abused its discretion by denying Georgia–Pacific's motion for mistrial and by vacating the order granting Georgia–Pacific a new trial.

Concluding there is legally insufficient evidence of causation, we reverse the trial court's judgment and render judgment that appellees take nothing on their claims against Georgia–Pacific.

PROCEDURAL BACKGROUND

In February 2003, Timothy Bostic's wife, son, father, and mother brought wrongful death claims and a survival action against Georgia–Pacific and numerous other entities alleging Timothy's death was caused by exposure to asbestos. At the time of trial, Georgia–Pacific was the sole remaining defendant, the other named defendants having settled or been dismissed. Appellees alleged Georgia–Pacific was negligent, strictly liable for a product marketing defect, and grossly negligent.

In 2005, Judge Sally Montgomery presided over the trial of this lawsuit in Dallas County Court at Law No. 3. After the jury verdict awarding appellees actual and punitive damages, Judge Montgomery ordered appellees to either elect a new trial on all issues or agree to remit a misallocat-

ed award of future lost wages and the award of punitive damages. Appellees elected a new trial. The lawsuit was tried for the second time before a jury in 2006.[1] The jury returned a verdict in favor of appellees, finding Georgia–Pacific seventy-five percent liable and Knox Glass, Inc., a non-party former employer of Timothy, twenty-five percent liable for Timothy's death. The jury awarded $7,554,907 in compensatory damages and $6,038,910 in punitive damages.

Georgia–Pacific filed a motion to recuse Judge Montgomery. Judge M. Kent Sims granted the motion to recuse, and the lawsuit was transferred to Judge Russell H. Roden, Dallas County Court at Law No. 1. In December 2006, the trial court granted Georgia–Pacific's motion for mistrial and ordered a new trial.

In January 2007, Judge D'Metria Benson became the presiding judge of Dallas County Court at Law No. 1. In February 2008, appellees filed a motion to vacate Judge Roden's order granting a new trial and for entry of judgment. In July 2008, Judge Benson granted appellees' motion to vacate the order for new trial and signed a judgment based on the jury's June 2006 verdict. In October 2008, Judge Benson signed the amended final judgment awarding appellees $6,784,135.32 in compensatory damages and $4,831,128.00 in punitive damages. Georgia–Pacific appealed.

LEGAL SUFFICIENCY OF THE EVIDENCE

In its first issue, Georgia–Pacific asserts there is legally insufficient evidence that Georgia–Pacific asbestos-containing joint compound[2] caused Timothy's mesothelioma, a form of cancer usually linked to asbestos exposure. Georgia–Pacific asserts there is no evidence Timothy was exposed to Georgia–Pacific asbestos-containing joint compound, and even if there was evidence of exposure, there is no evidence of dose. Further, Georgia–Pacific asserts that even if there was evidence of exposure and dose, the record contains no epidemiological studies showing that persons similar to Timothy with exposure to asbestos-containing joint compound had an increased risk of developing mesothelioma. Georgia–Pacific also asserts that appellees' experts' theory that "each and every exposure" to asbestos caused Timothy's mesothelioma was rejected by the Texas Supreme Court in *Borg–Warner Corp. v. Flores*, 232 S.W.3d 765 (Tex.2007).[3] Georgia–Pacific asserts that for each of these reasons, appellees' negligence and defective marketing claims against Georgia–Pacific fail as a matter of law.

1. Harold Bostic, Timothy's father, died while the case was being retried.

2. Joint compound, sometimes called "drywall mud," is used to connect and smooth the seams of adjoining pieces of drywall, also called sheetrock, and to cover nail heads on sheets of drywall. Joint compound is spread in a thin coat and then smoothed. After it dries, uneven areas are further smoothed by sanding. This process is sometimes carried out multiple times in further refining the surface.

3. Prior to the 2008 final judgment in this case, the Texas Supreme Court issued its *Flores* opinion on toxic tort law in asbestos cases, including specific causation. Like the instant appeal, in *Georgia–Pacific Corp. v. Stephens*, 239 S.W.3d 304 (Tex.App.-Houston [1st Dist.] 2007, pet. denied), issued after *Flores*, the asbestos trial occurred before the *Flores* decision, but the appellate court was bound by *Flores*. *Stephens*, 239 S.W.3d at 321; *see also Smith v. Kelly–Moore Paint Co.*, 307 S.W.3d 829, 834 (Tex.App.-Fort Worth 2010, no pet.) (appellate court bound by *Flores* as supreme court precedent); *Lubbock Cnty. v. Trammel's Lubbock Bail Bonds*, 80 S.W.3d 580, 585 (Tex.2002) (once supreme court announces proposition of law, that proposition is binding precedent and may not be modified or abrogated by court of appeals).

[1–3] When, as here, an appellant attacks the legal sufficiency of an adverse finding on an issue on which it did not have the burden of proof, it must demonstrate that no evidence supports the finding. *Croucher v. Croucher*, 660 S.W.2d 55, 58 (Tex.1983). "The final test for legal sufficiency must always be whether the evidence at trial would enable reasonable and fair-minded people to reach the verdict under review." *Del Lago Partners, Inc. v. Smith*, 307 S.W.3d 762, 770 (Tex. 2010) (quoting *City of Keller v. Wilson*, 168 S.W.3d 802, 827 (Tex.2005)). We review the evidence in the light most favorable to the verdict, crediting favorable evidence if reasonable jurors could and disregarding contrary evidence unless reasonable jurors could not. *Del Lago Partners*, 307 S.W.3d at 770.

Asbestos Exposure

[4] In 2002, Timothy was diagnosed with mesothelioma at the age of forty. He died in 2003. Appellees claim Timothy's mesothelioma was caused by his exposure to asbestos-containing joint compound manufactured by Georgia–Pacific. Georgia–Pacific acknowledged there is some evidence that Timothy used or was present during the use of joint compound between 1967 and 1977, but contends there is no evidence of exposure to Georgia–Pacific asbestos-containing joint compound. *See Gaulding v. Celotex Corp.*, 772 S.W.2d 66, 68 (Tex.1989) (fundamental principle of products liability law is plaintiff must prove defendant supplied product which caused injury).

Georgia–Pacific manufactured and sold joint compound products that included chrysotile asbestos [4] fibers from the time it acquired Bestwall Gypsum Company in 1965 until 1977, when Georgia–Pacific ceased marketing asbestos-containing joint compound. Those Georgia–Pacific joint compounds were offered in a dry mix formula and a pre-mixed formula.[5] The parties do not dispute that any exposure of Timothy to a Georgia–Pacific asbestos-containing joint compound would have occurred between 1967 and 1977. Evidence regarding Timothy's work with or around Georgia–Pacific asbestos-containing joint compound in this ten-year period came from Timothy's and Harold Bostic's deposition testimony read and played by videotape at trial and Timothy's work history sheets.

Timothy testified he had been around drywall work his entire life, and he recalled that before the age of ten, he observed his father performing drywall work. He stated he mixed and sanded joint compound from the age of five. He testified he recalled at a young age helping his father "mud the holes" with joint compound. While he did not provide any more specifics of drywall work he performed with his father before 1977, he believed he used and was exposed to Georgia–Pacific joint compound before he graduated from high school in 1980. Timothy's work history sheets also indicate he worked with and

4. Chrysotile is the most abundant type of asbestos fiber and is a serpentine fiber consisting of "pliable curly fibrils which resemble scrolled tubes." *Flores*, 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)); *Smith*, 307 S.W.3d at 832 n. 3. The remaining commercial types of asbestos fibers are amphiboles, which include amosite and crocidolite. *Smith*, 307 S.W.3d at 832, 837; *Bartel v. John Crane, Inc.*, 316 F.Supp.2d 603, 606 (N.D.Ohio 2004), *aff'd*, 424 F.3d 488 (6th Cir.2005).

5. Dust containing asbestos fibers could be released by sanding or sweeping either formula and by mixing the dry formula.

around other brands of asbestos-containing joint compounds.

Timothy's work history sheets also assert exposure to asbestos fibers from Georgia–Pacific joint compound as a result of household exposure to Harold's clothing. This alleged exposure would have occurred prior to his parents' divorce in 1972, when he was ten years old, and thereafter when he stayed with his father on weekends, holidays, and at times in the summer.

Harold testified he used Georgia–Pacific joint compound ninety-eight percent of the time that he did drywall work. He testified he tried one or two other brands of joint compound, but he always returned to Georgia–Pacific's product. With one exception listed below, Harold said he could not positively associate Georgia–Pacific's product with any specific drywall job. He stated he knew he had used Georgia–Pacific's product on several jobs, but he could not recall exactly where. Harold testified that Timothy began to accompany him on remodeling jobs in 1967 when Timothy was the age of five. Timothy helped mix joint compound, applied and sanded joint compound to the height Timothy could reach, and breathed in the dust from sanded joint compound.

According to his testimony, Harold worked part-time on only one remodeling or construction job at a time for a family member or friend. Each project took a lengthy period of time to complete. Although he testified there was no doubt in his mind that he and Timothy used Georgia–Pacific joint compound "many, many times" between 1967 and 1977, he identified and described work performed on eight remodeling projects for the relevant period. Harold identified only one specific project where Georgia–Pacific joint compound was used, and he could not recall whether Timothy performed drywall work or was present during drywall work on that project. Only three projects were identified in which Harold and Timothy may have performed drywall work together or Timothy may have been present when Harold performed drywall work. Following is a summary chronology of the remodeling or construction jobs Harold recalled for this relevant period:

- In the house he lived in with his wife and Timothy, Harold performed drywall work while remodeling a utility room. Timothy was four or five years of age at the time and may have played in the joint compound "mud" or sanded drywall to the height he could reach.
- During the course of a three-month project, Harold built a ten foot by ten foot bathroom and dressing room in his brother's house. Harold performed drywall work as part of the project. He could not recall the brand of joint compound he utilized. Timothy performed sewer work on this project. Timothy was six or seven years of age.
- Harold remodeled the interior of his sister's service station. The project lasted a year in 1968 or 1970. Harold performed drywall work on an eight foot by seven foot room and the ceiling of the room. Timothy was between the ages of six and eight.
- Harold built living quarters in a friend's garage and car dealership. This year-long project included drywall work. He has no memory of Timothy working with drywall on this project.
- In connection with the construction of the interior of a friend's prefabricated home, Harold performed drywall work. The construction project took a year to complete. Harold recalled utilizing Georgia–Pacific joint compound, but he did not recall whether Timothy performed drywall work or whether Timothy was present when Harold performed drywall work. Timothy dug the septic

tank on this project. Timothy was between the ages of ten and twelve.

- In finishing a room in his sister's newer home, Harold could not recall utilizing drywall. Timothy was eleven or twelve years of age.
- During a year-long construction project, Harold performed drywall work in his sister's five hundred square foot older home.
- In building partitions in his mother's home, Harold recalled that he may have patched some cracks, but he did not perform drywall work and he could not recall using joint compound. Timothy was thirteen or fourteen years of age.

Evidence at trial substantiated Timothy was exposed to asbestos other than through use of or presence during the use of Georgia–Pacific asbestos-containing joint compound. In addition to Georgia–Pacific joint compound, the evidence established and appellees acknowledge that Timothy was exposed to numerous asbestos products and asbestos-containing products, both occupationally and through household and bystander exposure.

Timothy was exposed to asbestos utilized at Knox Glass. Harold was employed as a welder at Knox Glass from around 1960 until the plant closed in 1984. Asbestos and asbestos-containing products were used throughout the glass container factory, particularly to insulate against heat. Harold was exposed to asbestos fibers, which were inadvertently brought home on his clothing, thereby exposing Timothy. These household exposures to asbestos occurred consistently from Timothy's birth until his parents were divorced when he was ten years old, from time spent with Harold on weekends, holidays, and in the summers between the ages of ten and fifteen, and from the ages of fifteen to eighteen when Timothy lived with Harold.

Timothy was further exposed to asbestos utilized at Knox Glass in connection with his janitorial and mechanical work at Knox Glass in the summer months of 1980 through 1982.[6] He worked in both the hot end of the plant, where glass bottles were manufactured and where asbestos was more likely prevalent, and in the cold end of the plant.[7] The evidence indicated that asbestos or asbestos-containing items in the work environment at Knox Glass included refractory cements, fireproofing, asbestos cloth, pumps, packing (braided rope made from asbestos), valves, furnaces, blow heads, gaskets, and firebrick mortar. Timothy's work responsibilities included cutting raw asbestos cloth, sweeping up asbestos-containing dust, cleaning up after asbestos pipe coverings were repaired, removing flaking asbestos from machines and replacing it with asbestos he cut, and wearing asbestos gloves or mittens.

Timothy also had occupational exposure to asbestos during 1977 and 1978, when he worked for approximately six months as a

6. In 1988, Timothy and Harold underwent testing to determine whether they had contracted an asbestos-related disease as a result of working at Knox Glass. A bronchial alveolar lavage (BAL) was performed on each of them to determine what type of fiber exposures had occurred. Two chrysotile and two amosite asbestos fibers were found in Timothy's BAL. There were additional fibers that were not asbestos that could not be identified. Three amosite asbestos fibers were found in Harold Bostic's BAL.

7. Timothy testified he worked summer months at Knox Glass in 1980, 1981, and 1982. Appellees seek to narrow the time period of exposure to asbestos and asbestos-containing products to three months by asserting that to be the cumulative amount of time Timothy worked in the hot end of the plant.

welder's assistant for Palestine Contractors. There he was exposed to asbestos while removing gaskets and asbestos pipe insulation three to four times each week.

Timothy was also exposed to asbestos fibers as a result of mechanical work Harold performed on automobiles, including brake work. Timothy was exposed in the household to asbestos fibers on Harold's clothing and as a bystander and assistant to his father with respect to the automotive repairs. In addition, when he was older, Timothy performed mechanical work on vehicles resulting in exposure to a number of asbestos-containing products, including clutches, brake pads and linings, friction products, and gaskets. He testified that he performed approximately four brake jobs a year and fewer than ten clutch jobs in his lifetime. Timothy identified a number of manufacturers of asbestos-containing products he was exposed to in connection with the mechanical work he performed.

After his graduation from high school, Timothy began remodeling homes on his own. According to the evidence, he was exposed to a number of asbestos-containing products in his remodeling work, including roofing shingles, floor tiles, and ceiling tiles. Timothy identified several manufacturers and marketers of asbestos-containing products he utilized in addition to Georgia–Pacific joint compounds. It is not disputed that Timothy used Georgia–Pacific products after his graduation from high school in 1980. However, these uses occurred after Georgia–Pacific joint compounds no longer contained asbestos.

Albeit limited, the record contains evidence through the lay testimony of Timothy and Harold, and Timothy's work history sheets, of Timothy's use or presence during the use of Georgia–Pacific's asbestos-containing joint compound. On this record, we disagree with Georgia–Pacific's argument that there is no evidence Timothy was exposed to Georgia–Pacific asbestos-containing joint compound.

Substantial–Factor Causation

[5, 6] Georgia–Pacific next contends there is legally insufficient evidence of causation, an essential element of appellees' negligence and strict liability defective marketing claims. In a toxic tort case, the plaintiff must show both general and specific causation. *See Merrell Dow Pharm., Inc. v. Havner*, 953 S.W.2d 706, 714–15, 720 (Tex.1997). "General causation is whether a substance is capable of causing a particular injury or condition in the general population, while specific causation is whether a substance caused a particular individual's injury." *Havner*, 953 S.W.2d at 714; *see also Georgia–Pacific Corp. v. Stephens*, 239 S.W.3d 304, 308–09 (Tex. App.-Houston [1st Dist.] 2007, pet. denied). For purposes of this appeal, Georgia–Pacific is not challenging the legal sufficiency of the evidence of general causation that inhalation of chrysotile asbestos fibers can cause mesothelioma. Instead, Georgia–Pacific challenges the legal sufficiency of the evidence as to specific causation, that is whether Georgia–Pacific asbestos-containing joint compound was, in fact, a cause of Timothy's mesothelioma.

Causation

Georgia–Pacific contends that appellees failed to introduce evidence sufficient to satisfy the "substantial factor" standard of causation set forth in *Flores*, because appellees produced no evidence of cause-in-fact. In the context of an asbestos case, the Texas Supreme Court explained that "asbestos in the defendant's product [must be] a substantial factor in bringing about the plaintiff's injuries." *Flores*, 232 S.W.3d at 770. The *Flores* court agreed that the "frequency, regularity, and prox-

imity" test for exposure to asbestos set out in *Lohrmann v. Pittsburgh Corning Corp.*, 782 F.2d 1156 (4th Cir.1986), is appropriate. *Flores*, 232 S.W.3d at 769; *see also Lohrmann*, 782 F.2d at 1162–63 (to support reasonable inference of substantial causation from circumstantial evidence, there must be evidence of exposure to specific product on regular basis over extended period of time in proximity to where plaintiff actually worked). The supreme court stated, however, that the terms "frequency," "regularity," and "proximity" do not "capture the emphasis [Texas] jurisprudence has placed on causation as an essential predicate to liability," and agreed with *Lohrmann's* analysis that the asbestos exposure must be a substantial factor in causing the asbestos-related disease. *Flores*, 232 S.W.3d at 769; *see also Lohrmann*, 782 F.2d at 1162.

[7–9] Causation is an essential element of appellees' claims for negligence and product marketing defect. Proximate cause is an element of a negligence claim, while producing cause is an element of a strict liability claim. *Gen. Motors Corp. v. Saenz*, 873 S.W.2d 353, 357 (Tex.1993). "Both producing and proximate cause contain the cause-in-fact element, which requires that the defendant's act be a 'substantial factor in bringing about the injury and without which the harm would not have occurred.'" *Metro Allied Ins. Agency, Inc. v. Lin*, 304 S.W.3d 830, 835 (Tex. 2009) (quoting *Doe v. Boys Clubs of Greater Dallas, Inc.*, 907 S.W.2d 472, 481 (Tex. 1995)); *see also Flores*, 232 S.W.3d at 770 (quoting RESTATEMENT (SECOND) OF TORTS § 431 cmt. a (1965)) ("substantial" used to denote the fact that the defendant's conduct has such an effect in producing harm as to lead reasonable men to regard it as a cause); *Prudential Ins. Co. of Am. v. Jefferson Assocs., Ltd.*, 896 S.W.2d 156, 161 (Tex.1995); *Patino v. Complete Tire, Inc.*, 158 S.W.3d 655, 661 (Tex.App.-Dallas 2005, pet. denied).

Appellees assert that *Flores* does not require "but-for" causation in proving specific causation and that *Flores* requires only that appellees prove Timothy's exposure to Georgia–Pacific asbestos-containing joint compound was a "substantial factor" in contributing to his risk of mesothelioma. We disagree. The Texas Supreme Court "[has] recognized that '[c]ommon to both proximate and producing cause is causation in fact, including the requirement that the defendant's conduct or product be a substantial factor in bringing about the plaintiff's injuries.'" *Flores*, 232 S.W.3d at 770 (quoting *Union Pump Co. v. Allbritton*, 898 S.W.2d 773, 775 (Tex.1995)); *see also Ford Motor Co. v. Ledesma*, 242 S.W.3d 32, 46 (Tex.2007).

[10, 11] Thus, to establish substantial-factor causation, a plaintiff must prove that the defendant's conduct was a cause-in-fact of the harm. *See Flores*, 232 S.W.3d at 770. "In asbestos cases, then, we must determine whether the asbestos in the defendant's product was a substantial factor in bringing about the plaintiff's injuries" and without which the injuries would not have occurred. *Id.; see also Stephens*, 239 S.W.3d at 308–09.

[12] Appellees acknowledged in their brief and at oral submission that their only expert who opined on specific causation of Timothy's mesothelioma was pathologist Samuel Hammar, M.D. However, Dr. Hammar testified he could not opine that Timothy would not have developed mesothelioma absent exposure to Georgia–Pacific asbestos-containing joint compound. Because a plaintiff must prove that the defendant's conduct was a cause-in-fact of the harm, appellees' evidence is insufficient to satisfy the required substantial-factor causation element for maintaining

this negligence and product liability suit. *See Flores*, 232 S.W.3d at 770.

"Each and Every Exposure" Theory of Causation

[13] Georgia–Pacific argues that appellees further failed to establish substantial-factor causation because they improperly based their showing of causation on the opinion of their only specific causation expert that each and every exposure to asbestos caused or contributed to cause Timothy's mesothelioma. Georgia–Pacific contends the law set forth in *Flores* and *Stephens* rejects the theory that each and every exposure to asbestos contributes to the development of mesothelioma. *See Flores*, 232 S.W.3d at 773; *Stephens*, 239 S.W.3d at 311, 314–15, 321 (in *Flores*, Texas Supreme Court rejected "any exposure" test for specific causation and adopted substantial-factor causation standard). Therefore, Georgia–Pacific asserts there is no evidence of the essential element of causation to support appellees' negligence or defective marketing claims against Georgia–Pacific.

Quoting from the underlying court of appeals decision, the *Flores* court expressly rejected the "each and every exposure" theory of liability:

> [Plaintiff's expert] acknowledged that asbestos is "plentiful" in the ambient air and that "everyone" is exposed to it. If a single fiber could cause asbestosis, however, "everyone" would be susceptible. No one suggests this is the case.... In analyzing the legal sufficiency of Flores's negligence claim, then, the court of appeals erred in holding that "[i]n the context of asbestos-related claims, if there is sufficient evidence that the defendant supplied *any* of the asbestos to which a plaintiff was exposed, then the plaintiff has met the burden of proof."

Flores, 232 S.W.3d at 773 (emphasis in original). Instead, as discussed previously in this opinion, the Texas Supreme Court requires the plaintiff to prove "that the defendant's product was a substantial factor in causing the alleged harm." *Id.*

In *Stephens*, Dr. Hammar, appellees' specific causation expert here, "express[ed] an opinion that each and every exposure that an individual has in a bystander occupational setting causes their mesothelioma." *Stephens*, 239 S.W.3d at 315. Dr. Hammar testified that any exposure the deceased commercial painter had throughout the time he worked was causative of his mesothelioma. *Id.* at 320. The plaintiffs in *Stephens* also relied on the testimony of Jerry Lauderdale, an industrial hygienist. *Id.* at 314. Lauderdale testified that asbestos-related diseases are based on cumulative exposures and that there is no way to isolate a particular exposure that caused development of the disease. *Id.* at 315. It was Lauderdale's opinion "that every exposure does contribute to the development of—potential to develop mesothelioma." *Id.* The court noted that the experts failed to show that "the 'any exposure' theory is generally accepted in the scientific community—that any exposure to a product that contains asbestos results in a statistically significant increase in the risk of developing mesothelioma." *Id.* at 320–21. Consistent with *Flores*, the "each and every exposure" theory was rejected in *Stephens*. *Id.* at 314–15, 320–21.

In this case, appellees' specific causation expert, Dr. Hammar, testified that asbestos-related diseases are dose-related diseases, meaning that asbestos exposures comprising the cumulative dose, at least to the point of the first cancer cell's development, are all causative or potentially causative of the disease. He opined, to a reasonable degree of medical probability, that

each and every exposure to asbestos would be a significant contributing, or at least a potentially contributing, factor to the development of mesothelioma. Dr. Hammar agreed that each and every exposure Timothy had to asbestos was significant and a contributing factor in the development of his mesothelioma. These exposures would include Timothy's use of or exposure to asbestos during his employment at Knox Glass, his bystander exposure, and his household exposure to asbestos fibers Harold inadvertently brought home on his clothing from Knox Glass and from his part-time mechanical and construction work.

At oral submission, appellees stated that while not experts on the specific cause of Timothy's disease, their other experts at trial supported Dr. Hammar's testimony. Appellees' experts at trial on general causation, Arnold R. Brody, Ph.D., an experimental pathologist with a doctorate in cell biology, and Richard Lemen, Ph.D., an epidemiologist, espoused the "each and every exposure" theory. Dr. Brody testified that each and every asbestos fiber a person inhales is considered a cause of or a substantial contributing factor to mesothelioma. Dr. Lemen testified that with each and every exposure to asbestos, and each and every inhalation of asbestos fibers, the fibers add to the total body burden of exposure and contribute to the development of mesothelioma.

In their effort to demonstrate evidence of substantial-factor causation, appellees also refer to the testimony of Richard Kronenberg, M.D., a witness called to testify by Georgia–Pacific. Dr. Kronenberg testified that asbestos diseases result from a total accumulated exposure over a lifetime. He stated that each and every exposure would be a significant contributing factor to an asbestos disease, and that all the exposures throughout Timothy's life working with any sort of asbestos-containing products contributed to the development of his disease.

The Texas Supreme Court has determined that an "each and every exposure" theory is legally insufficient to support a finding of causation. *Flores*, 232 S.W.3d at 773. We agree with Georgia–Pacific's assertion that appellees did not establish substantial-factor causation to the extent they improperly based their showing of specific causation on their expert's testimony and the testimony of Dr. Kronenberg that each and every exposure to asbestos caused or contributed to cause Timothy's mesothelioma.

Frequency, Proximity, and Regularity of Exposure

Appellees contend that Georgia–Pacific misstates the facts in asserting the appellees' expert relied on the "each and every exposure" theory in support of substantial-factor causation. Instead, appellees assert that in accordance with the substantial-factor causation standard, they presented "substantial evidence of Timothy's ten years of frequent, proximate, and regular exposure to Georgia–Pacific asbestos joint compound...."

Appellees contend that Timothy "used Georgia–Pacific asbestos joint compound 'many times' over ten years." Appellees assert that "[t]aking into account the frequency, proximity, and regularity of Timothy's exposure to Georgia–Pacific's joint compound," Dr. Hammar testified that Timothy's exposure to Georgia–Pacific asbestos joint compound would have been sufficient in and of itself to cause his mesothelioma.

It was Dr. Hammar's understanding that from an early age with his father, and then as he grew older, Timothy "did a fair amount of work with the drywall work" and he testified Timothy was exposed to

asbestos during mixing, sanding, and cleaning up of drywall materials. Dr. Hammar testified he had reviewed Timothy's work history sheets "which chronicled Timothy's work history and what he had actually done during his life." But he acknowledged that work history sheets do not tell "the time of exposure and the intensity of the exposure the individual had." Further, he had not reviewed the deposition testimony of Timothy or Harold, although he acknowledged that deposition testimony provides more details of the nature and amount of exposure than work history sheets.

As is detailed above, the record does not contain "substantial" evidence of Timothy's frequent use of or exposure to Georgia–Pacific joint compound for the period 1967 to 1977 and does not establish Timothy's use of the joint compound "many times" over that period.[8] In fact, the evidence regarding Timothy's exposure to asbestos-containing joint compound and the number of times it occurred during the period 1967 to 1977 belies an assertion of exposure occurring "many times" and belies the information contained in Timothy's work history sheets reviewed by Dr. Hammar.[9]

We disagree with appellees' contention that Georgia–Pacific is incorrect in arguing appellees relied on the "each and every exposure" theory to support substantial-factor causation. We also disagree with appellees' contention that, instead, they presented "substantial evidence of Timothy's ten years of frequent, proximate, and regular exposure to Georgia–Pacific asbestos joint compound" to establish substantial-factor causation. *See Jackson v. Anchor Packing Co.*, 994 F.2d 1295, 1308 (8th Cir.1993) (although worker testified he worked with gaskets and packets "many times" during years as mechanic, no evidence in record that he used gaskets many times and cannot tell whether he used products "for two jobs or two hundred jobs"); *Lohrmann*, 782 F.2d at 1163 (ten to fifteen occasions of exposure to asbestos-containing pipe covering lasting between one and eighteen hours duration insufficient to satisfy frequency-regularity-proximity test). On this record, there is insufficient evidence of Timothy's frequent and regular exposure to Georgia–Pacific's asbestos-containing joint compound during the relevant time period.

Quantitative Evidence that Exposure Increased Risk of Developing Mesothelioma

Georgia–Pacific also contends that appellees failed to establish substantial-factor causation because there is no evidence of the quantitative exposure (dose) of asbestos fibers from Georgia–Pacific asbestos-containing joint compound to which Timo-

8. Appellees further assert that Timothy's exposure to Georgia–Pacific asbestos-containing joint compound "was far greater than any other asbestos exposure." This is apparently based on appellees "quantifying the ratio of [Timothy's] exposure to Georgia–Pacific asbestos joint compound as compared to his other exposures," which according to appellees was "ten years of Georgia–Pacific asbestos joint compound versus three months of exposure at Knox–Glass [sic], six months at Palestine Contractors, potential household exposure, and sporadic brake work." Without endorsing this methodology, we conclude this argument is inapposite to the "frequency, proximity, and regularity" test associated with substantial-factor causation.

9. According to Timothy's work history sheets, for a period of over thirty years from the early 1970s, Timothy was exposed to asbestos fibers from Georgia–Pacific joint compounds through his work with or around them as a self-employed carpenter with a workweek of over forty hours, at various residences with Harold as a coworker, and through household exposure resulting from Harold's work as a carpenter.

thy was exposed, and because appellees failed to present evidence of the minimum exposure level leading to an increased risk of development of mesothelioma.

As set forth in *Flores*, *Stephens*, and *Smith*, the "each and every exposure" theory and the theory that there is no level of asbestos exposure below which the potential to develop mesothelioma is not present have been rejected. *See Flores*, 232 S.W.3d at 769–70, 773; *Smith v. Kelly–Moore Paint Co.*, 307 S.W.3d 829, 837 n. 9, 839 (Tex.App.-Fort Worth, 2010, no pet.); *Stephens*, 239 S.W.3d at 311, 314–15. In order to prove substantial factor causation, a plaintiff must not only show frequency, regularity, and proximity of exposure to the product, the plaintiff must also show reasonable quantitative evidence that the exposure increased the risk of developing the asbestos-related injury. *Flores*, 232 S.W.3d at 769–72; *Smith*, 307 S.W.3d at 833; *Stephens*, 239 S.W.3d at 312. "Because most chemically induced adverse health effects clearly demonstrate 'thresholds,' there must be reasonable evidence that the exposure was of sufficient magnitude to exceed the threshold before a likelihood of 'causation' can be inferred." *Flores*, 232 S.W.3d at 773 (quoting David L. Eaton, *Scientific Judgment and Toxic Torts–A Primer in Toxicology for Judges and Lawyers*, 12 J.L. & Pol'y 5, 39 (2003)).

Flores mandates that a showing of substantial-factor causation include quantitative evidence that Timothy's exposure to asbestos increased his risk of developing an asbestos-related injury. *See Flores*, 232 S.W.3d at 772. Thus, the evidence had to not only show Timothy's exposure to Georgia–Pacific asbestos-containing product on a frequent and regular basis, but also that the exposure was in sufficient amounts to increase his risk of developing mesothelioma. *Id.* at 769–70.

Appellees contend their specific causation expert, Dr. Hammar, "analyzed the mathematical threshold of asbestos exposure leading to a multiple increased risk of mesothelioma, and testified that Timothy's ten year exposure to Georgia–Pacific asbestos joint compound would have been enough in and of itself to cause his mesothelioma." They state Dr. Hammar considered the threshold for increased risk of developing mesothelioma to be 0.1 fiber cc,[10] and considered the frequency, regularity, and fiber concentration of Timothy's ten years of exposure to Georgia–Pacific asbestos-containing joint compound, and testified, within a reasonable degree of medical certainty, that these exposures were sufficient, in and of themselves, to have caused Timothy's mesothelioma.

Dr. Hammar testified he does not know of any safe level of exposure to asbestos under which disease does not occur. He opined that exposure to friable [11] asbestos fibers above background levels had the potential to contribute to the development of Timothy's mesothelioma. It is his opinion that every exposure above .1 fiber cc contributes to the development of mesothelioma. He stated that information published in the Federal Register shows that at .1 fiber cc, statistically there are seven cases of mesothelioma per year.

10. "Asbestos exposure is generally measured in fibers per cubic centimeter (fibers/cc) on an eight hour weighted average. This is calculated by taking the amount of time an individual is exposed to asbestos and mathematically calculating a time weighted average over an eight hour day.... In all urban environments, there is a level of asbestos in the ambient air. This level, often called the background level, varies from location to location and ranges from .000001 to .01 fiber/cc." *Bartel*, 316 F.Supp.2d at 607.

11. " 'Friable' refers to breathable asbestos." *See Flores*, 232 S.W.3d at 767 n. 6.

These dosage opinions are consistent with Dr. Hammar's opinions in *Stephens*. There he "opined that the level of exposure it takes to cause mesothelioma 'could be any level above what is considered to be background, which, from my definition, would be anything greater than .1 fiber cc years.' In sum, he stated: 'I'm going to express an opinion that each and every exposure that an individual has in a bystander occupational setting causes their mesothelioma.'" *Stephens*, 239 S.W.3d at 315. He stated "that mesothelioma is a dose-responsive disease, and that a threshold exists 'above which you may be at risk, below which you may not be at risk' for developing the disease." *Id.*

In *Stephens*, there was no quantitative evidence of the plaintiff's exposure to Georgia–Pacific asbestos-containing joint compound, the product also at issue there. *Id.* at 321. Although the literature and scientific studies the experts relied upon supported a reasonable inference that exposure to chrysotile asbestos can increase a worker's risk of developing mesothelioma, none of those studies undertook the task of linking the minimum exposure level (or dosage) of joint compound with a statistically significant increased risk of developing of the disease. *Id.* Thus, the court held that the opinions offered by the plaintiffs' experts, including Dr. Hammar, lacked the factual and scientific foundation required by *Flores* and were legally insufficient proof of substantial-factor causation necessary to support the jury's verdict. *Stephens*, 239 S.W.3d at 321.

According to John Maddox, M.D., the plaintiffs' expert regarding specific causation in *Smith*, "[b]ecause asbestos dust is so strongly associated with mesothelioma, proof of significant exposure to asbestos dust is proof of specific causation." *Smith*, 307 S.W.3d at 837. "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." *Id.* After discussing the scientific literature relied upon by Dr. Maddox, the court held that the plaintiffs' evidence "ultimately suffers the same defect as the plaintiff's in *Stephens*" and that under *Flores*, Dr. Maddox's opinion is insufficient as to specific causation. *Id.* at 839.

Here, appellees endeavor to rely on material practice simulation studies performed by their general causation expert, William Longo, Ph.D., a material scientist. Dr. Longo's simulation studies were intended to determine the amounts of asbestos fibers released during mixing, sanding, and sweeping Georgia–Pacific's (or its predecessor Bestwall's) asbestos-containing joint compound in a controlled environment. However, Dr. Longo admitted his studies could not establish an exposure level or dose for Timothy, particularly because of the many variables in the circumstances of a given work activity and location of the activity. Thus, Dr. Longo's testimony regarding the results of his material practice simulation studies do not quantify Timothy's exposure to asbestos fibers from Georgia–Pacific asbestos-containing joint compound.

On this record, appellees' evidence is insufficient to provide quantitative evidence of Timothy's exposure to asbestos fibers from Georgia–Pacific's asbestos-containing joint compound or to establish Timothy's exposure was in amounts sufficient to increase his risk of developing mesothelioma. Therefore, appellees' evidence is legally insufficient to establish substantial-factor causation mandated by *Flores*.

For the reasons discussed above, appellees' claims of negligence and product liability require proof of substantial-factor causation. *See Flores*, 232 S.W.3d at 774.

We conclude that the evidence presented at trial is legally insufficient proof of substantial-factor causation necessary to support the jury's negligence and strict liability marketing defect verdicts against Georgia–Pacific. We sustain Georgia–Pacific's first issue.

APPELLANT'S SECOND AND THIRD ISSUES

In its second issue, Georgia–Pacific asserts that there was no clear and convincing evidence to support the jury's finding of Georgia–Pacific's gross negligence. Our disposition of Georgia–Pacific's first issue necessarily disposes of appellees' gross negligence claim against Georgia–Pacific. *See Transp. Ins. Co. v. Moriel*, 879 S.W.2d 10, 23 (Tex.1994).

Georgia–Pacific contends in its third issue that the trial court erred in denying its motion for mistrial and in vacating the order granting a new trial, warranting a remand of this case to the trial court. Our disposition of Georgia–Pacific's first issue makes it unnecessary to address Georgia–Pacific's third issue. *See* Tex.R.App. P. 47.1.

CONCLUSION

There is legally insufficient evidence of causation to support the verdict against Georgia–Pacific. We reverse the trial court's judgment and render judgment that appellees take nothing on their claims against Georgia–Pacific.

Ronald J. LATHAM, Appellant,

v.

David BURGHER, Appellee.

No. 05–08–01477–CV.

Court of Appeals of Texas, Dallas.

Aug. 27, 2010.

Background: Homeowner brought action against roofing company and its owner for breach of contract and violations of the Deceptive Trade Practices Act (DTPA). Following a jury trial, the 193rd Judicial District Court, Dallas County, Carl Ginsberg, J., entered judgment in favor of homeowner, and roofing company owner appealed.

Holdings: The Court of Appeals, FitzGerald, J., held that:

(1) in the context of piercing the corporate veil, "actual fraud" involves dishonesty of purpose or intent to deceive, and is not equivalent to the tort of fraud;

(2) evidence was sufficient to conclude roofing company owner was roofing company's alter ego;

(3) homeowner was not precluded from recovering full amount paid roofing company on basis his fiancée wrote the check;

(4) testimony of roofing estimator was sufficient to allow jury to rationally believe roofing company's repairs had no value, entitling homeowner to all out-of-pocket payments made for repairs;

(5) testimony of roofing estimator supported an inference all repairs made by second roofing company were repairs first roofing company should have made, or were necessitated by first roofing company's failure to properly repair roof;

Court of Appeals
Fifth District of Texas at Dallas

JUDGMENT

GEORGIA-PACIFIC CORPORATION,
Appellant

No. 05-08-01390-CV V.

SUSAN ELAINE BOSTIC, INDIVIDUALLY AND AS PERSONAL REPRESENTATIVE OF THE HEIRS AND ESTATE OF TIMOTHY SHAWN BOSTIC, DECEASED; HELEN DONNAHOE; AND KYLE ANTHONY BOSTIC, Appellees

Appeal from the County Court at Law No. 1 of Dallas County, Texas. (Tr.Ct.No. cc-03-01977-A).
Opinion delivered by Justice Fillmore, Justices Bridges and FitzGerald participating.

In accordance with this Court's opinion of this date, the judgment of the trial court is **REVERSED**, and judgment is **RENDERED** that appellees Susan Elaine Bostic, Individually and as Personal Representative of the Estate of Timothy Shawn Bostic, Deceased, Helen Donnahoe, and Kyle Anthony Bostic take nothing on their claims against appellant Georgia-Pacific Corporation. It is **ORDERED** that appellant Georgia-Pacific Corporation recover its costs of this appeal from appellees Susan Elaine Bostic, Individually and as Personal Representative of the Estate of Timothy Shawn Bostic, Deceased, Helen Donnahoe, and Kyle Anthony Bostic.

Judgment entered August 26, 2010.

ROBERT M. FILLMORE
JUSTICE

Tab B

NO. CC-03-01977-A

SUSAN ELAINE BOSTIC, Individually and as Personal Representative of the Heirs and Estate of TIMOTHY SHAWN BOSTIC, Deceased; HELEN DONNAHOE; and KYLE ANTHONY BOSTIC,	§	IN THE COUNTY COURT
Plaintiffs,	§	
VS.	§	AT LAW # 1
GEORGIA-PACIFIC CORPORATION,	§	
Defendant.	§	
	§	DALLAS COUNTY, TEXAS

FIRST AMENDED FINAL JUDGMENT

CAME ON FOR TRIAL BY JURY in the County Court at Law No. 3 for Dallas County, Texas, the claims of Plaintiffs **SUSAN ELAINE BOSTIC, Individually and as Personal Representative of the Heirs and Estate of TIMOTHY SHAWN BOSTIC, Deceased; HELEN DONNAHOE;** and **KYLE ANTHONY BOSTIC** against Defendant **GEORGIA-PACIFIC CORPORATION**. All claims of these Plaintiffs against all other Defendants have been severed or settled and dismissed before verdict.

After a jury was impaneled and sworn, it heard the evidence and arguments of counsel. In response to the jury charge, the jury made findings that the Court received, filed, and entered of record. The questions submitted to the jury and the jury's findings are attached as Exhibit 1 and incorporated herein by reference. After due deliberation, the jury returned a verdict awarding a total of $7,554,907.00 in compensatory damages and $6,038,910.00 in exemplary damages on or about June 8, 2006. The case was transferred to this Court on August 10, 2006. Plaintiffs filed a motion for judgment on the verdict.

The Court hereby RENDERS judgment for Plaintiffs as against Defendant GEORGIA-PACIFIC CORPORATION.

Based on the verdict of the jury, the Court's rulings during trial, the applicable law, and taking into account the prior settlements received by Plaintiffs it is

ORDERED, ADJUDGED and DECREED:

WITH REGARD TO COMPENSATORY DAMAGES:

1. That Plaintiff **SUSAN ELAINE BOSTIC**, as Personal Representative of the Estate of **TIMOTHY SHAWN BOSTIC**, shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after an offset for settlements in the amount of $275,994.12 calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), compensatory damages in the amount of **$1,240,005.88**.

2. That Plaintiff **SUSAN ELAINE BOSTIC**, Individually, shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after an offset for settlements in the amount of $219,863.33 calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), compensatory damages in the amount of **$2,799,591.67**.

3. That Plaintiff **KYLE ANTHONY BOSTIC** shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after an offset for settlements in the amount of $164,809.43 calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), compensatory damages in the amount of **$1,646,860.57**.

4. That Plaintiff **HELEN DONNAHOE** shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after an offset for settlements in the amount of $110,104.80 calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), compensatory damages in the amount of **$1,097,677.20**.

WITH REGARD TO PUNITIVE DAMAGES:

5. That Plaintiff **SUSAN ELAINE BOSTIC**, Individually, shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION** punitive damages in the amount of **$3,019,455.00**.

6. That Plaintiff **KYLE ANTHONY BOSTIC** shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION** punitive damages in the amount of **$1,811,673.00**.

WITH REGARD TO PREJUDGMENT INTEREST:

7. That Plaintiff **SUSAN ELAINE BOSTIC**, as Personal Representative of the Estate of **TIMOTHY SHAWN BOSTIC**, shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after offsets for settlements calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), prejudgment interest on past damages pursuant to TEX. FIN. CODE ANN. Ch. 304 at the rate of FIVE PERCENT (5.0%) per annum, simple, already accrued from February 19, 2003 (the day this lawsuit was filed) through October 21, 2008 (the day before this judgment was signed) in the amount of **$183,122.97**.

8. That Plaintiff **SUSAN ELAINE BOSTIC**, Individually, shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after offsets for settlements calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), prejudgment interest on past damages pursuant to TEX. FIN. CODE ANN. Ch. 304 at the rate of FIVE PERCENT (5.0%) per annum, simple, already accrued from February 19, 2003 (the day this lawsuit was filed) through October 21, 2008 (the day before this judgment was signed) in the amount of **$145,894.95**.

9. That Plaintiff **KYLE ANTHONY BOSTIC** shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after offsets for settlements calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), prejudgment interest on past damages pursuant

to TEX. FIN. CODE ANN. Ch. 304 at the rate of FIVE PERCENT (5.0%) per annum, simple, already accrued from February 19, 2003 (the day this lawsuit was filed) through October 21, 2008 (the day before this judgment was signed) in the amount of **$109,434.00**.

10. That Plaintiff **HELEN DONNAHOE** shall have and recover from Defendant **GEORGIA-PACIFIC CORPORATION**, after offsets for settlements calculated pursuant to *Battaglia v. Alexander*, 177 S.W.3d 893 (Tex. 2005), prejudgment interest on past damages pursuant to TEX. FIN. CODE ANN. Ch. 304 at the rate of FIVE PERCENT (5.0%) per annum, simple, already accrued from February 19, 2003 (the day this lawsuit was filed) through October 21, 2008 (the day before this judgment was signed) in the amount of **$72,921.91**.

AND IT IS FURTHER ORDERED:

11. That post-judgment interest on all amounts owed by Defendant **GEORGIA-PACIFIC CORPORATION** to Plaintiffs shall accrue at the rate of FIVE PERCENT (5.0%) per annum, compounded annually, from the day this Judgment is signed until satisfaction of Judgment, pursuant to TEX. FIN. CODE ANN. Ch. 304.

13. That costs of suit shall be taxed against Defendant **GEORGIA-PACIFIC CORPORATION**, and that Plaintiffs are entitled to post-judgment interest on such court costs at the rate of FIVE PERCENT (5.0%) per annum, compounded annually, pursuant to TEX. FIN. CODE §§ 304.003(a), 304.006.

14. This judgment is final, disposes of all claims and all parties, and is appealable.

The Court orders execution to issue for this judgment.

SIGNED this 22nd day of October, 2008.

THE HONORABLE JUDGE BENSON PRESIDING

APPROVED AS TO FORM AND SUBSTANCE:

DENYSE CLANCY
State Bar No. 24012425
JED J. BORGHEI
State Bar No. 24059473

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APPROVED AS TO FORM ONLY:

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Tab C

POSTED

CAUSE NO. CC-03-01977-A

SUSAN ELAINE BOSTIC, Individually and as Personal Representative of the Heirs and Estate of TIMOTHY SHAWN BOSTIC, Deceased; HAROLD BOSTIC; HELEN DONNAHOE; and KYLE ANTHONY BOSTIC	§	IN THE COUNTY COURT
	§	AT LAW NO. 1
Plaintiff's,	§	
v.	§	
GEORGIA-PACIFIC CORPORATION	§	
Defendant.	§	DALLAS COUNTY, TEXAS

ORDER REGARDING PLAINTIFF'S MOTION FOR VACATURE AND IN THE ALTERNATIVE MOTION FOR ENTRY OF JUDGMENT ON THE VERDICT

Came on to heard, on the 20th day of June 2008, Plaintiffs' Motion for Vacatur of the Court's December 22, 2006 Order Granting a New Trial and Motion for Entry of Judgment. This is a case of longstanding initially filed in 2003 which has twice been tried to jury and subject to a motion to recuse, granted against the original trial judge and subject to Application for Writ of Mandamus. It has additionally, been the subject of a Motion for Mistrial and Supplemental Motion for Mistrial, granted by the predecessor judge of this Court.

Although this Court did not participate in the previous trials on the merits or in the hearing on the Defendant's Motion for Mistrial and Supplemental Motion for Mistrial, in hearing Plaintiff's Motion for Vacatur of the Court's December 22, 2006 Order Granting a New Trial and Motion for Entry of Judgment; the Court was presented with exceptional oral advocacy, detailed and extensive briefing and well articulated and reasoned arguments by counsel for each party. As such, the Court recognizes that not

only were the arguments and issues presented pertinent to the request for vacatur, but were implicitly and explicitly a request for reconsideration of the previous Motion for Mistrial and Supplemental Motion for Mistrial.

The Court, being mindful that its obligation in ruling on matters pending before it must look to the substance as well as the form in which such matters are presented, and after considering the motion, responses and arguments of counsel, hereby GRANTS Plaintiff's Motion for Vacatur of the Court's December 22, 2006 Order Granting a New Trial and Motion for Entry of Judgment in all respects and hereby VACATES in all respects the Court's Order Granting Georgia-Pacific Corporation's Motion for Mistrial and Supplemental Motion for Mistrial.

SIGNED this 31 day of July, 2008.

JUDGE PRESIDING

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Tab D

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CAUSE NO. CC-03-01977-C

SUSAN ELAINE BOSTIC, Individually and as Personal Representative of the Heirs and Estate of TIMOTHY SHAWN BOSTIC, Deceased; HAROLD BOSTIC; HELEN DONNAHOE; and KYLE ANTHONY BOSTIC	§	IN THE COUNTY COURT
Plaintiffs,	§	AT LAW NO. 1
vs.	§	
GEORGIA-PACIFIC CORPORATION,	§	
Defendant.	§	DALLAS COUNTY, TEXAS

K. P. COURTS

ORDER GRANTING GEORGIA-PACIFIC CORPORATION'S MOTION FOR MISTRIAL AND SUPPLEMENTAL MOTION FOR MISTRIAL

On October 19, 2006, this Court heard Defendant Georgia-Pacific Corporation's Motion for Mistrial and Supplemental Motion for Mistrial. After considering Defendant's motion, the response filed by the Plaintiffs, and the arguments of counsel, the Court GRANTS Defendant's Motion for Mistrial and Supplemental Motion for Mistrial and ORDERS a New Trial.

SIGNED on this 22nd day of ~~October~~ December, 2006.

JUDGE RUSSELL H. RODEN

000439

Tab E

NO. CC-03-01977-C

SUSAN ELAINE BOSTIC, Individually and as Personal Representative of the Heirs and Estate of TIMOTHY SHAWN BOSTIC, Deceased; HELEN DONNAHOE; and KYLE ANTHONY BOSTIC,	§	IN THE COUNTY COURT
Plaintiffs,	§	
VS.	§	
GEORGIA-PACIFIC CORPORATION,	§	
Defendants.	§	DALLAS COUNTY, TEXAS

COURT'S JURY INSTRUCTIONS

LADIES AND GENTLEMEN OF THE JURY:

This case is submitted to you by asking questions about the facts, which you must decide from the evidence you have heard in this trial. You are the sole judges of the credibility of the witnesses and the weight to be given their testimony, but in matters of law, you must be governed by the instructions in this charge. In discharging your responsibility on this jury, you will observe all the instructions which have previously been given you. I shall now give you additional instructions which you should carefully and strictly follow during your deliberations.

1. Do not let bias, prejudice or sympathy play any part in your deliberations.

2. In arriving at your answers, consider only the evidence introduced here under oath and such exhibits, if any, as have been introduced for your consideration under the rulings of the Court, that is, what you have seen and heard in this courtroom, together with the law as given you by the Court. In your deliberations, you will not consider or discuss what is not represented by the evidence in this case.

3. Since every answer that is required by the charge is important, no juror should state or consider that any required answer is not important.

4. You must not decide who you think should win, and then try to answer the questions accordingly. Simply answer the questions, and do not discuss nor concern yourselves with the effect of your answers.

5. You will not decide the answer to a question by lot or by drawing straws, or by any other method of chance. Do not return a quotient verdict. A quotient verdict means that the jurors agree to abide by the result to be reached by adding together each juror's figures and dividing by the number of jurors to get an average. Do not do any trading on your answers; that is, one juror should not agree to answer a certain question one way if others will agree to answer another question another way.

6. You may render your verdict upon the vote of five or more members of the jury. The same five or more of you must agree upon all of the answers made and to the entire verdict. You will not, therefore, enter into an agreement to be bound by a majority or any other vote of less than five jurors. If the verdict and all of the answers therein are reached by unanimous agreement, the presiding juror shall sign the verdict for the entire jury. If any juror disagrees as to any answer made by the verdict, those jurors who agree to all findings shall each sign the verdict.

These instructions are given you because your conduct is subject to review the same as that of the witnesses, parties, attorneys and the judge. If it should be found that you have disregarded any of these instructions, it will be jury misconduct and it may require another trial by another jury; then all of our time will have been wasted.

The presiding juror or any other who observes a violation of the court's instructions shall immediately warn the one who is violating the same and caution the juror not to do so again.

When words are used in this charge in a sense that varies from the meaning commonly understood, you are given a proper legal definition, which you are bound to accept in place of any other meaning.

Answer "Yes" or "No" to all questions unless otherwise instructed. A "Yes" answer must be based on a preponderance of the evidence unless otherwise instructed. If you do not find that a preponderance of the evidence supports a "Yes" answer, then answer "No." The term "preponderance of the evidence" means the greater weight and degree of credible evidence admitted in this case. Whenever a question requires an answer other than "Yes" or "No," your answer must be based on a preponderance of the evidence unless otherwise instructed.

A fact may be established by direct evidence or by circumstantial evidence or both. A fact is established by direct evidence when proved by documentary evidence or by witnesses who saw the act done or heard the words spoken. A fact is established by circumstantial evidence when it may be fairly and reasonably inferred from other facts proved.

"NEGLIGENCE" means failure to use ordinary care, that is, failing to do that which a person or entity of ordinary prudence would have done under the same or similar circumstances or doing that which a person or entity of ordinary prudence would not have done under the same or similar circumstances.

"ORDINARY CARE" means that degree of care that would be used by a person or entity of ordinary prudence under the same or similar circumstances.

"PROXIMATE CAUSE" means that cause which, in a natural and continuous sequence, produces an event, and without which cause such event would not have occurred. In order to be a proximate cause, the act or omission complained of must be such that a person or entity using ordinary

care would have foreseen that the event, or some similar event, might reasonably result therefrom. There may be more than one proximate cause of an event.

"SOLE PROXIMATE CAUSE." There may be more than one proximate cause of an event, but if an act or omission of any person not a party to the suit was the "sole proximate cause" of an occurrence, then no act or omission of any other person could have been a proximate cause.

"PRODUCING CAUSE" means an efficient, exciting, or contributing cause that, in a natural sequence, produces the injury. There may be more than one producing cause.

QUESTION NO. 1:

Did the negligence, if any, of those named below proximately cause the asbestos-related injury, if any, to TIMOTHY SHAWN BOSTIC that resulted in his death?

Answer "YES" or "NO."	YES	NO
Allied-Signal	___	X
Borg-Warner	___	X
Bondex International	___	X
Celotex	___	X
Certainteed Corporation	___	X
Daimler Chrysler Corporation	___	X
Ford Motor Company	___	X
Garlock	___	X
General Motors Corporation	___	X
Georgia Pacific	X	___
H. K. Porter	___	X
Ingersoll-Rand	___	X
Johns-Manville	___	X
Kaiser Aluminum And Chemical	___	X
Knox Glass	X	___
Narco	___	X
Pneumo Abex Corporation	___	X
Union Carbide Company	___	X
Uniroyal	___	X

QUESTION NO. 2:

Was there a defect in the marketing of the asbestos-containing products at the time they left the possession of those named below that was a producing cause of the injury, if any, to TIMOTHY SHAWN BOSTIC that resulted in his death?

A "marketing defect" with respect to the product means the failure to give adequate warnings of the product's dangers that were known or by the application of reasonably developed human skill and foresight should have been known or failure to give adequate instructions to avoid such dangers, which failure rendered the product unreasonably dangerous as marketed.

"Adequate" warnings and instructions mean warnings and instructions given in a form that could reasonably be expected to catch the attention of a reasonably prudent person in the circumstances of the product's use; and the content of the warnings and instructions must be comprehensible to the average user and must convey a fair indication of the nature and extent of the danger and how to avoid it to the mind of a reasonably prudent person.

An "unreasonably dangerous" product is one that is dangerous to an extent beyond that which would be contemplated by the ordinary user of the product with the ordinary knowledge common to the community as to the product's characteristics.

Answer "YES" or "NO".	YES	NO
Allied-Signal	___	X
Borg-Warner	___	X
Bondex International	___	X
Celotex	___	X
Certainteed Corporation	___	X
Daimler Chrysler Corporation	___	X
Ford Motor Company	___	X
Garlock	___	X
General Motors Corporation	___	X

Georgia Pacific	X	
H. K. Porter		X
Ingersoll-Rand		X
Johns-Manville		X
Kaiser Aluminum And Chemical		X
Narco		X
Pneumo Abex Corporation		X
Union Carbide Company		X
Uniroyal		X

If you have answered Question Nos. 1 or 2 "YES" with respect to more than one company, then answer Question No. 3 as to those Companies only; otherwise, do not answer Question No. 3.

QUESTION 3:

For each of those named below found by you to have caused the injury to TIMOTHY SHAWN BOSTIC that resulted in his death, find the percentage of responsibility.

The percentages you find must total 100 percent. The percentages must be expressed in whole numbers. The percentage of causation attributable to those named below is not necessarily measured by the number of acts, omissions, or product defects found.

Assign a percentage only to those Companies you have answered "Yes" to in Question No. 1 or 2:

a. Allied-Signal Ø %

b. Borg-Warner Ø %

c. Bondex International Ø %

d. Celotex Ø %

e. Certainteed Ø %

f. Daimler Chrysler Ø %

g. Ford Motor Ø %

h. Garlock Ø %

i. General Motors Ø %

j. Georgia Pacific 75 %

k. H. K. Porter Ø %

l. Ingersoll-Rand Ø %

m. Johns-Manville Ø %

n. Kaiser Aluminum And Chemical Ø %

o. Knox Glass 25 %

p. Narco Ø %

q. Pneumo Abex Ø %

r. Union Carbide Ø %

s. Uniroyal Ø %

TOTAL: 100 %

If you have answered Question No. 1 or 2 "YES" with respect to any one or more Companies, answer Question No. 4 as to those Companies; otherwise, do not answer Question No. 4.

QUESTION 4:

Do you find by clear and convincing evidence that the injury resulting in the death of TIMOTHY SHAWN BOSTIC resulted from malicet?

"Clear and convincing evidence" means the measure or degree of proof that produces a firm belief or conviction of the truth of the allegations sought to be established.

"Malice" means an act or omission by the Defendant,

(i) which, when viewed objectively from the standpoint of the Defendant at the time of its occurrence, involved an extreme degree of risk, considering the probability and magnitude of the potential harm to others; and

(ii) of which the Defendant had actual, subjective awareness of the risk involved, but nevertheless proceeded with conscious indifference to the rights, safety, or welfare of others.

Answer "YES" or "NO".	YES	NO
Georgia Pacific	X	

If you have answered Questions Nos. 1 or 2 "YES" with respect to any one or more Defendants, then answer Question No. 5; otherwise, do not answer Question No. 5.

QUESTION NO. 5:

What sum of money would have fairly and reasonably compensated TIMOTHY SHAWN BOSTIC for his asbestos-related injuries from the time of his injury until his death?

Consider the elements of damages listed below and none other. Consider each element separately. Do not award any sum of money on any element if you have otherwise, under some other element, awarded a sum of money for the same loss. That is, do not compensate twice for the same loss, if any. Do not include interest on any amount of damages you find.

a. Pain and Mental anguish.

"Pain and mental anguish" means the conscious physical pain and emotional pain, torment, and suffering experienced by TIMOTHY SHAWN BOSTIC before his death as a result of his asbestos-related injuries.

Answer in dollars and cents for damages, if any.

Amount $ 753,000.00

b. Disfigurement.

"Disfigurement" means that which, as a result of his asbestos-related injuries, impaired the beauty, symmetry, or appearance of TIMOTHY SHAWN BOSTIC and that rendered him unsightly, misshapen, imperfect, or deformed in some manner.

Answer in dollars and cents for damages, if any.

Amount $ 251,000.00

c. Physical impairment.

"Physical impairment" means the restriction of physical activities experienced by TIMOTHY SHAWN BOSTIC as a result of his asbestos-related injuries. Loss of enjoyment of life is a factor to consider in determining physical impairment. The effect of any physical impairment must be substantial and extend beyond any pain, suffering, or mental anguish.

Answer in dollars and cents for damages, if any.

Amount $ 251,000.00

d. Medical expenses.

"Medical expenses" means the reasonable expense of the necessary medical and hospital care received by TIMOTHY SHAWN BOSTIC for treatment of injuries sustained by him as a result of his asbestos-related injuries.

Answer in dollars and cents for damages, if any.

Amount $ 251,000.00

e. Funeral and burial expenses.

"Funeral and burial expenses" means the reasonable amount of expenses for funeral and burial of TIMOTHY SHAWN BOSTIC reasonably suitable to his station in life.

Answer in dollars and cents for damages, if any.

Amount $ 10,000.00

If you have answered Questions Nos. 1 or 2 "YES" with respect to any one or more Defendants, then answer Question No. 6; otherwise, do not answer Question No. 6.

QUESTION NO. 6:

What sum of money, if paid now in cash, would fairly and reasonably compensate SUSAN ELAINE BOSTIC for her injuries, if any, that resulted from the death of TIMOTHY SHAWN BOSTIC?

Consider the elements of damages listed below and none other. Consider each element separately. Do not award any sum of money on any element if you have otherwise, under some other element, awarded a sum of money for the same loss. That is, do not compensate twice for the same loss, if any. Do not include interest on any amount of damages you find.

a. Pecuniary loss.

"Pecuniary loss" means the loss of the care, maintenance, support, services, advice, counsel, and reasonable contributions of a pecuniary value, excluding loss of addition to the estate, that SUSAN ELAINE BOSTIC, in reasonable probability, would have received from TIMOTHY SHAWN BOSTIC had he lived.

Answer in dollars and cents for damages, if any, that —

were sustained in the past; Answer $ 402,594.00

in reasonable probability will be sustained in the future. Answer $ 402,594.00

b. Loss of companionship and society.

"Loss of companionship and society" means the loss of the positive benefits flowing from the love, comfort, companionship, and society that SUSAN ELAINE BOSTIC, in reasonable probability, would have received from TIMOTHY SHAWN BOSTIC had he lived.

Answer in dollars and cents for damages, if any, that —

were sustained in the past; Answer $ 402,594.00

in reasonable probability will be sustained in the future. Answer $ 402,594.00

c. Mental anguish.

"Mental anguish" means the emotional pain, torment, and suffering experienced by SUSAN ELAINE BOSTIC because of the death of TIMOTHY SHAWN BOSTIC.

Answer in dollars and cents for damages, if any, that -

were sustained in the past; Answer $ 402,594.00

in reasonable probability will be sustained in the future. Answer $ 402,594.00

In determining damages for elements b and c, you may consider the relationship between SUSAN ELAINE BOSTIC and TIMOTHY SHAWN BOSTIC, their living arrangements, any extended absences from one another, the harmony of their family relations, and their common interests and activities.

d. Loss of addition to the estate.

"Loss of addition to the estate" means the loss of the present value of assets that the deceased, in reasonable probability, would have added to the estate existing at the end of his natural life and left to SUSAN ELAINE BOSTIC.

Answer in dollars and cents for damages, if any.

Answer $ 603,891.00

If you have answered Questions Nos. 1 or 2 "YES" with respect to any one or more Defendants, then answer Question No. 7; otherwise, do not answer Question No. 7.

QUESTION NO. 7:

What sum of money, if paid now in cash, would fairly and reasonably compensate KYLE ANTHONY BOSTIC for his injuries, if any, that resulted from the death of his father TIMOTHY SHAWN BOSTIC?

Consider the elements of damages listed below and none other. Consider each element separately. Do not award any sum of money on any element if you have otherwise, under some other element, awarded a sum of money for the same loss. That

is, do not compensate twice for the same loss, if any. Do not include interest on any amount of damages you find.

a. Pecuniary loss.

"Pecuniary loss" means the loss of the care, maintenance, support, services, advice, counsel, and reasonable contributions of a pecuniary value that KYLE ANTHONY BOSTIC, in reasonable probability, would have received from TIMOTHY SHAWN BOSTIC had he lived.

Answer in dollars and cents for damages, if any, that -

were sustained in the past; Answer $ 301,945.00

in reasonable probability will be sustained in the future. Answer $ 301,945.00

b. Loss of companionship and society.

"Loss of companionship and society" means the loss of the positive benefits flowing from the love, comfort, companionship, and society that KYLE ANTHONY BOSTIC, in reasonable probability, would have received from TIMOTHY SHAWN BOSTIC had he lived.

Answer in dollars and cents for damages, if any, that -

were sustained in the past; Answer $ 301,945.00

in reasonable probability will be sustained in the future. Answer $ 301,945.00

c. Mental anguish.

"Mental anguish" means the emotional pain, torment, and suffering experienced by KYLE ANTHONY BOSTIC because of the death of TIMOTHY SHAWN BOSTIC.

Answer in dollars and cents for damages, if any, that -

were sustained in the past; Answer $ 301,945.00

in reasonable probability will be sustained in the future. Answer $ 301,945.00

In determining damages for elements b and c, you may consider the relationship between TIMOTHY SHAWN BOSTIC and his son KYLE ANTHONY BOSTIC, their living arrangements, any extended absences from one another, the harmony of their family relations, and their common interests and activities.

QUESTION NO. 8:

What sum of money, if paid now in cash, would fairly and reasonably compensate HELEN DONNAHOE for her injuries, if any, that resulted from the death of TIMOTHY SHAWN BOSTIC, her son ?

Consider the elements of damages listed below and none other. Consider each element separately. Do not award any sum of money on any element if you have otherwise, under some other element, awarded a sum of money for the same loss. That is, do not compensate twice for the same loss, if any. Do not include interest on any amount of damages you find.

a. Pecuniary loss.

"Pecuniary loss" means the loss of the care, maintenance, support, services, advice, counsel, and reasonable contributions of a pecuniary value that HELEN DONNAHOE in reasonable probability, would have received from TIMOTHY SHAWN BOSTIC had he lived.

Answer in dollars and cents for damages, if any, that -

were sustained in the past: Answer $201,297.00

that in reasonable probability will be sustained in the future: Answer $201,297.00

b. Loss of companionship and society.

"Loss of companionship and society" means the loss of the positive benefits flowing from the love, comfort, companionship, and society that HELEN DONNAHOE in reasonable probability, would have received from TIMOTHY SHAWN BOSTIC had he lived.

Answer in dollars and cents for damages, if any, that -

were sustained in the past: Answer $201,297.00

that in reasonable probability will be sustained in the future: Answer $201,297.00

c. Mental anguish.

"Mental anguish" means the emotional pain, torment, and suffering experienced by HELEN DONNAHOE because of the death of TIMOTHY SHAWN BOSTIC.

Answer in dollars and cents for damages, if any, that -

were sustained in the past: Answer $201,297.00

in reasonable probability will be sustained in the future: Answer $201,297.00

In determining damages for elements b and c, you may consider the relationship between TIMOTHY SHAWN BOSTIC and his mother, their living arrangements, any extended absences from one another, the harmony of their family relations, and their common interests and activities.

If you have answered Question No. 4 "YES" with respect to any one or more Defendants, then answer Question No. 8 as to those Defendants; otherwise, do not answer Question No. 8.

QUESTION NO. 8:

What sum of money, if any, should be assessed against the Defendant as exemplary damages for the death of TIMOTHY SHAWN BOSTIC?

"Exemplary damages" means any damages awarded as a penalty or by way of punishment. Exemplary damages includes punitive damages.

In determining the amount of exemplary damages, you shall consider evidence, if any, relating to --

a. The nature of the wrong.

b. The character of the conduct involved.

c. The degree of culpability of the wrongdoer.

d. The situation and sensibilities of the parties concerned.

e. The extent to which such conduct offends a public sense of justice and propriety.

f. The net worth of the defendant.

Answer in dollar and cents, if any.

Georgia Pacific

Answer: $ 6,038,910.00

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If, in your answer to Question No. 8, you have entered any amount of exemplary damages as to any Defendant, then answer Question No. 9. Otherwise, do not answer Question No. 9.

QUESTION NO. 9:

How do you apportion the exemplary damages between SUSAN ELAINE BOSTIC, KYLE ANTHONY BOSTIC and HELEN DONNAHOE?

Answer by stating a percentage for each person named below. The percentages you find must total 100 percent.

SUSAN ELAINE BOSTIC	50 %
KYLE ANTHONY BOSTIC	30 %
HELEN DONNAHOE	20 %
Total	100 %

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After you return to the jury room, you will select your own presiding juror. The first thing the presiding juror will do is to have this complete charge read aloud and then you will deliberate upon your answers to the questions asked.

It is the duty of the presiding juror --

1. to preside during your deliberations,
2. to see your deliberations are conducted in an orderly manner and in accordance with the instructions in this charge,
3. to write out and hand to the bailiff any communications concerning the case that you desire to have delivered to the judge,
4. to vote on the questions,
5. to write your answers to the questions in the spaces provided, and
6. to certify to your verdict in the space provided for the presiding juror's signature or to obtain the signatures of all the jurors who agree with the verdict if your verdict is less than unanimous.

You should not discuss the case with anyone, not even with the other members of the jury, unless all of you are present and assembled in the jury room. Should anyone attempt to talk to you about the case before the verdict is returned, whether at the courthouse, at your home, or elsewhere, please inform the judge of this fact.

When you have answered all the questions you are required to answer under the instructions of the judge and your presiding juror has placed your answers in the spaces provided and signed the verdict as presiding juror or obtained the signatures, you will inform the bailiff at the door of the jury room that you have reached a verdict, and then you will return into Court with your verdict.

JUDGE PRESIDING

We, the jury, have answered the above and foregoing questions as indicated, and return these answers to the Court as our verdict.

(To be signed by the Presiding Juror only, if unanimous).

David J Jones
PRESIDING JUROR

(To be signed by the five or more jurors who agree to the answers, if not unanimous).

_____ MEOCHA BERRYMAN

_____ SUSIE BARBOSA

_____ LOLA MOSLEY

_____ DIANNA WOITAS

_____ TESSIE BROWN

~~David J Jones~~ DJ DAVID JONES

Tab F

BORG–WARNER CORPORATION, now known as Burns International Services Corporation, Petitioner,

v.

Arturo FLORES, Respondent.

No. 05–0189.

Supreme Court of Texas.

Argued Sept. 29, 2006.

Decided June 8, 2007.

Rehearing Denied Oct. 12, 2007.

Background: Automobile mechanic brought asbestos-related products liability action against brake pad manufacturer. The 319th District Court, Nueces County, Ricardo Garcia, J., entered judgment on jury verdict for mechanic and awarded compensatory and punitive damages. Manufacturer appealed. The Corpus Christi-Edinburg Court of Appeals, 153 S.W.3d 209, affirmed. Review was granted.

Holding: The Supreme Court, Wallace B. Jefferson, C.J., held that plaintiff's evidence was legally insufficient to establish that defendant's asbestos-containing brake pads were substantial factor in causing plaintiff's alleged asbestosis.

Court of Appeals reversed; judgment rendered for defendant.

1. Products Liability ⇐62

A person's exposure to "some" respirable fibers is not sufficient to show that a product containing asbestos was a substantial factor in causing asbestosis.

2. Evidence ⇐571(9)

Products Liability ⇐83

Plaintiff mechanic's evidence was legally insufficient to establish, in products liability action, that defendant manufacturer's asbestos-containing brake pads were substantial factor in causing plaintiff's alleged asbestosis; plaintiff merely presented expert evidence that mechanics in the braking industry could be exposed to "some" respirable asbestos fibers when grinding brake pads or blowing out the housings, and of the frequency, regularity, and proximity of plaintiff's exposure to asbestos, without presenting any dosage-related evidence of approximately how much asbestos plaintiff might have inhaled.

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Chief Justice JEFFERSON delivered the opinion of the Court.

Nearly ten years ago, we observed that asbestos litigation had reached maturity. *In re Ethyl Corp.*, 975 S.W.2d 606, 610 (Tex.1998). Even mature claims evolve, however, and courts have continued to struggle with the appropriate parameters for lawsuits alleging asbestos-related injuries.[1] While science has confirmed the

1. In 2005, Texas, like Louisiana and Ohio before it, adopted a medical criteria statute governing claims for injuries resulting from asbestos or silica. Act of May 16, 2005, 79th

threat posed by asbestos, we have not had the occasion to decide whether a person's exposure to "some" respirable fibers is sufficient to show that a product containing asbestos was a substantial factor in causing asbestosis. Because we conclude that it is not, we reverse the court of appeals' judgment and render judgment for the petitioner.

I

Factual and Procedural Background

Sixty-six-year-old Arturo Flores is a retired brake mechanic. Flores spent much of his working life—from 1966 until his retirement in 2001—in the automotive department at Sears in Corpus Christi. While there, Flores handled several brands of brake pads, including those manufactured by Borg–Warner.[2] Flores used Borg–Warner pads from 1972–75, on five to seven of the roughly twenty brake jobs he performed each week.[3] Borg–Warner disk brake pads contained chrysotile[4] asbestos fibers, fibers that comprised seven to twenty-eight percent of the pad's weight, depending on the particular type of pad. Flores's job involved grinding the pads so that they would not squeal. The grinding generated clouds of dust that Flores inhaled while working in a room that measured roughly eight by ten feet.

Flores sued Borg–Warner and others, alleging that he suffered from asbestosis caused by working with brakes for more than three decades. At the week-long trial, Flores presented the testimony of two experts, Dr. Dinah Bukowski, a board-certified pulmonologist, and Dr. Barry Castleman, Ph.D., an "independent consultant in ... the field of toxic substance control." Dr. Bukowski examined Flores on a single occasion in May 2001. She reviewed Flores's x-rays, which revealed interstitial lung disease. Although there are more than 100 causes (including smoking) of such disease, Dr. Bukowski diagnosed Flores with asbestosis, based on his work as a brake mechanic coupled with an adequate latency period. According to Dr. Bukowski, asbestosis is "a form of interstitial lung disease, one of the scarring processes of the lungs caused from the inhalation of asbestos and found on biopsy to show areas of scarring in association with actual asbestos bodies or asbestos fibers."[5] Dr. Bukowski noted that asbestosis can be fatal and is progressive, meaning that the scar tissue increases over time. Once inhaled, the fibers cannot be expelled, and there is no known cure for asbestosis. She asserted that Flores's asbestosis could worsen; that he could suffer

Leg., R.S., ch. 97, § 2, 2005 Tex. Gen. Laws 169, 171–79 (now codified at TEX. CIV. PRAC. & REM.CODE ch. 90); *see also* STEPHEN J. CARROLL ET AL., RAND INSTITUTE FOR CIVIL JUSTICE, ASBESTOS LITIGATION 132 (2005). The trial in this case occurred before the statute was passed and was not, therefore, governed by its provisions.

2. Flores also performed brake jobs using Bendix, Raybestos, Motorcraft, Chrysler, and GM products.

3. From 1966 through 1972, Flores performed approximately three brake jobs per day. None of those involved Borg–Warner products.

4. Chrysotile asbestos is the most abundant type of asbestos fiber and is a serpentine fiber consisting of "pliable curly fibrils which resemble scrolled tubes." 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)

5. There was no biopsy performed on Flores's lung tissue, and Dr. Bukowski testified that, per criteria promulgated by the American Thoracic Society, biopsies are not necessary to an asbestosis diagnosis.

stiffening of his lungs, loss of lung volume, and difficulty with oxygenation. She acknowledged that everyone is exposed to asbestos in the ambient air; "it's very plentiful in the environment, if you're a typical urban dweller." She conceded that Flores's pulmonary function tests showed mild obstructive lung disease, which was unrelated to asbestos exposure.

Barry Castleman, Ph.D. testified that he has written numerous articles in peer-reviewed journals, as well as a book entitled *Asbestos: Medical and Legal Aspects.* Chapter 8, titled "Asbestos Disease in Brake Repair Workers," discusses asbestos-related risks to brake mechanics, "a long term interest of [his]" and reviews the published and some unpublished literature on asbestos as a hazard to brake mechanics. Dr. Castleman did not conduct independent research regarding the brake industry; instead, his research involved "look[ing] at what was publicly available." Dr. Castleman testified that "brake mechanics can be exposed [to asbestos] by grinding of brake pads or—or brake shoes and by—in the case of brake lining blowing out the accumulated dust in the brake—in the brake housing in doing a brake servicing/brake repair job." He described a conference on the hazards of brake repair held by Ford of Britain in 1969 and published in 1970 in the Annals of Occupational Hygiene. That conference evaluated the levels of exposure to asbestos fiber in the air from brake servicing jobs, and "it showed that the levels of exposure could be ... significant. They might not have necessarily exceeded the allowable exposure limits of the day, but in some cases, at least, they came close to doing that." Dr. Castleman then described some of the literature pertaining to mechanics in particular: a 1965 article that reported a case of mesothelioma in a "garage hand and chauffeur"; information published by the National Institute for Occupational Safety and Health warning about dangers to brake mechanics, emphasizing that grinding of brake parts was a hazardous job with high levels of asbestos exposure; and a 1978 brochure published by the Friction Material Standards Institute (FMSI), "a vehicle for companies in that subgroup of the asbestos industry to avail themselves of knowledge relating to the hazards and government regulation of their products in the years following 1968," warning brake mechanics about the dangers of asbestos. The FMSI brochure led Dr. Castleman to conclude "that the hazards to brake mechanics were effectively accepted by the asbestos manufacturers—asbestos product manufacturers by that time."

Dr. Castleman testified that a 1968 article determined that "most of the asbestos in brake linings is destroyed by the heat of friction and therefore is not released to the public air as asbestos fiber." But "some of the asbestos was found to survive the heated friction of the braking process." When questioned about whether friable [6] asbestos remained, Dr. Castleman testified that "[r]espirable asbestos fibers still remain," and a brake mechanic could be exposed to those fibers "[e]ither by grinding brake parts or by blowing out brake housings doing brake servicing work." On cross-examination, Dr. Castleman conceded that he had not researched Borg–Warner products and did not have any specific knowledge about them. While he knew that Borg–Warner manufactured brake pads, he did not "have any more detailed knowledge about the company than that."

6. "Friable" refers to breathable asbestos. *See* James L. Stengel, *The Asbestos End–Game,* 62 N.Y.U. ANN. SURV. AM. L. 223, 228 (2006).

Flores admitted to smoking from the time he was twenty-five until three weeks prior to trial. Flores's cardiologist reported a 50–pack year[7] smoking history, greater than the 15 to 20–pack year history Flores reported to Dr. Bukowski. At the time of trial, Flores's chief medical complaint was shortness of breath, which he testified manifested itself primarily after he had been mowing the lawn for 35–40 minutes. Flores also suffers from coronary artery disease and high cholesterol.

Borg–Warner's expert, pulmonologist Dr. Kathryn Hale, examined Flores and testified that, in her opinion, he did not have asbestosis and that his x-rays did not show "any asbestos disease." She also testified that she had reviewed the literature, including epidemiological studies involving brake mechanics, and had not seen any articles indicating that auto mechanics suffered an increased risk of lung cancer or mesothelioma. She acknowledged that Flores's medical records included an x-ray report from a NIOSH certified B-reader[8] physician who opined that Flores had "bilateral interstitial fibrotic changes consistent with asbestosis in a patient who has had an adequate exposure history and latency period," but Hale testified that she relied on criteria promulgated by the American Thoracic Society, and under those criteria, Flores did not have asbestosis.

The jury found that (1) Flores sustained an asbestos-related injury or disease; (2) Borg–Warner's negligence (as well as that of three other settling defendants) proximately caused Flores's asbestos-related injury or disease; (3) all four defendants were "engaged in the business of selling brake products"; and (4) the brake products had marketing, manufacturing, and design defects, each of which was a producing cause of Flores's injury. The jury apportioned to Borg–Warner 37% of the causation and 21% to each of the other three defendants. The jury awarded Flores $34,000 for future physical impairment, $34,000 for future medical care, $12,000 for past physical pain and mental anguish, and $34,000 for future physical pain and mental anguish.[9] In the second phase of the bifurcated trial, the jury found, by clear and convincing evidence, that Flores's injury resulted from malice and awarded $55,000 in exemplary damages against Borg–Warner. The trial court signed a judgment in conformity with the verdict, and Borg–Warner appealed.

The court of appeals affirmed, holding that there was legally sufficient evidence of negligence, citing the following:

> (1) Flores was a mechanic from 1964 to 2001; (2) as a mechanic, Flores ground new brake pads prior to installation, a process necessary to minimize "brake squealing"; (3) the grinding process produced visible dust, which Flores inhaled;

7. A pack year is a way of measuring the amount a person has smoked over a long period of time. *See* NATIONAL CANCER INSTITUTE, DICTIONARY OF CANCER TERMS, *http://www.cancer.gov/Templates/db alpha. aspx?CdrID=306510* (all Internet materials last visited June 6, 2007 and copy available in clerk of court's file). It is calculated by multiplying the number of packs of cigarettes smoked per day by the number of years the person has smoked. *Id.*

8. A "NIOSH certified B-reader" refers to a person who has successfully completed the x-ray interpretation course sponsored by the National Institute for Occupational Safety and Health (NIOSH) and passed the B-reader certification examination for x-ray interpretation. *See* TEX. CIV. PRAC. & REM.CODE § 90.001(4) (defining the term).

9. Before the trial began, Flores withdrew his claims for past and future earnings, as well as loss of earning capacity.

(4) from 1972 to 1975, Flores ground brake pads manufactured by Borg–Warner; (5) Borg–Warner's brake pads contained between seven and twenty-eight percent asbestos by weight; (6) in 1998, Flores was diagnosed with asbestosis; (7) Dr. Castleman testified that brake mechanics can be exposed to asbestos by grinding brake pads, a process which produces "respirable asbestos fibers"; (8) Dr. Bukowski testified that "brake dust has been shown to ... have asbestos fibers"; and (9) Dr. Bukowski also testified that "brake dust can cause asbestosis."

153 S.W.3d 209, 213–214. Borg–Warner petitioned for review arguing, among other things, that a plaintiff claiming to be injured by an asbestos-containing product must meet the same causation standards that other plaintiffs do.[10] We granted the petition. 49 Tex. Sup.Ct. J. 509 (Apr. 21, 2006).

II

Discussion[11]

A

Causation

Perhaps the most widely cited standard for proving causation in asbestos cases is the *Lohrmann* "frequency, regularity, and proximity" test. *Lohrmann v. Pittsburgh Corning Corp.*, 782 F.2d 1156 (4th Cir. 1986); *see also Slaughter v. Southern Talc Co.*, 949 F.2d 167, 171 (5th Cir.1991) (noting that *Lohrmann* is "[t]he most frequently used test for causation in asbestos cases" and applying *Lohrmann* to an asbestos claim governed by Texas law). In *Lohrmann*, the Fourth Circuit Court of Appeals considered whether a trial court correctly directed a verdict in favor of four asbestos manufacturers, after determining that there was insufficient evidence of causation between use of their products and the plaintiffs' asbestosis. *Id.* at 1162–63. The appellate court noted that, under Maryland law, proximate cause required evidence that "allow[ed] the jury to reasonably conclude that it is more likely than not that the conduct of the defendant was a substantial factor in bringing about the result." *Id.* at 1162 (noting that section 431 of the Restatement (Second) of Torts uses the same "substantial factor" test). The court rejected a standard "that if the plaintiff can present any evidence that a company's asbestos-containing product was at the workplace while the plaintiff was at the workplace, a jury question has been established as to whether that product" proximately caused the plaintiff's disease, as such a rule would be "contrary to the Maryland law of substantial causation." *Id.* at 1163. Instead, the court concluded that "[t]o support a reasonable inference of substantial causation from circumstantial evidence, there must be evidence of exposure to a specific product on a regular basis over some extended period of time in proximity to where the plaintiff actually worked." *Id.* at 1162–63. The court noted that "[i]n effect, this is a *de minimis* rule since a plaintiff must prove more than a

10. Centerpoint Energy, Inc., The Coalition for Litigation Justice, Inc., The Dow Chemical Company, Eastman Chemical Company, Exxon Mobil Corporation, The Goodyear Tire and Rubber Company, Owens Illinois, Inc., and Union Carbide Corporation submitted amicus briefs.

11. We note initially that Borg–Warner did not challenge, either before trial or at the time the evidence was offered, the reliability of Flores's experts and has, therefore, waived any reliability challenge that would require us to evaluate the experts' underlying methodology, technique, or foundational data. *Coastal Transp. Co. v. Crown Cent. Petroleum Corp.*, 136 S.W.3d 227, 231–33 (Tex.2004). Thus, we consider only those objections "restricted to the face of the record." *Id.* at 233.

casual or minimum contact with the product. This is a reasonable rule when one considers the Maryland law of substantial causation and the unusual nature of the asbestosis disease process, which can take years of exposure to produce the disease." *Id.* at 1162.

We have not adopted the *Lohrmann* test, and several amici urge us to do so here. The parties contend that our precedent adequately addresses the issue, as it requires that a party's conduct or product be a substantial factor in causing harm. We agree, with *Lohrmann*, that a "frequency, regularity, and proximity" test is appropriate, but those terms do not, in themselves, capture the emphasis our jurisprudence has placed on causation as an essential predicate to liability. It is important to emphasize that the *Lohrmann* court did not restrict its analysis to the tripartite phrase; indeed, it agreed that Restatement section 431 requires that the exposure be a "substantial factor" in causing the disease. *Id.* That analysis comports with our cases. For example, Restatement section 431's "substantial factor" test has informed our causation analysis on several occasions. *See Lear Siegler, Inc. v. Perez*, 819 S.W.2d 470, 471 (Tex.1991); *see also Union Pump Co. v. Allbritton*, 898 S.W.2d 773, 775–777 (Tex.1995). We have recognized that "[c]ommon to both proximate and producing cause is causation in fact, including the requirement that the defendant's conduct or product be a substantial factor in bringing about the plaintiff's injuries." *Union Pump*, 898 S.W.2d at 775. "The word 'substantial' is used to denote the fact that the defendant's conduct has such an effect in producing the harm as to lead reasonable men to regard it as a cause, using that word in the popular sense, in which there always lurks the idea of responsibility, rather than in the so-called 'philosophic sense,' which includes every one of the great number of events without which any happening would not have occurred." *Lear Siegler*, 819 S.W.2d at 472 (quoting RESTATEMENT (SECOND) OF TORTS § 431 cmt. a (1965)). In asbestos cases, then, we must determine whether the asbestos in the defendant's product was a substantial factor in bringing about the plaintiff's injuries.

One of toxicology's central tenets is that "the dose makes the poison." BERNARD D. GOLDSTEIN & MARY SUE HENIFIN, *Reference Guide on Toxicology, in* FEDERAL JUDICIAL CENTER, REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 401, 403 (2d ed.2000) (hereafter "REFERENCE MANUAL"). This notion was first attributed to sixteenth century philosopher-physician Paracelsus, who stated that "[a]ll substances are poisonous—there is none which is not; the dose differentiates a poison from a remedy." David L. Eaton, *Scientific Judgment and Toxic Torts—A Primer in Toxicology for Judges and Lawyers*, 12 J.L. & POL'Y 5 (2003) (citing CURTIS D. KLAASSEN, CASARETT AND DOULL'S TOXICOLOGY: THE BASIC SCIENCE OF POISONS Chs. 1, 4 (McGraw Hill 6th ed.2001) (1975)). Even water, in sufficient doses, can be toxic. REFERENCE MANUAL at 403; *see also* Marc Fisher, *Radio Stations and the Promotional Games: A Fatal Attraction*, WASH. POST, Feb. 25, 2007, at N02, *available at* http://www.washingtonpost.com/wp-dyn/content/article/2007/02/23/AR2007022300456.html (describing woman's death from water intoxication after participating in radio contest to win a video-game system).

Dose "refers to the amount of chemical that enters the body," and, according to one commentator, is "the single most important factor to consider in evaluating whether an alleged exposure caused a specific adverse effect." Eaton, *Scientific Judgment and Toxic Torts*, 12 J.L. & POL'Y at 11. We have recognized that "[e]xposure to asbestos, a known carcino-

gen, is never healthy but fortunately does not always result in disease." *Temple–Inland Forest Prods. Corp. v. Carter*, 993 S.W.2d 88, 95 (Tex.1999). We have held that epidemiological studies are without evidentiary significance if the injured person cannot show that "the exposure or dose levels were comparable to or greater than those in the studies." *Merrell Dow Pharms., Inc. v. Havner*, 953, S.W.2d 706, 720–21 (Tex.1997). The federal Reference Manual on Scientific Evidence provides:

> An opinion on causation should be premised on three preliminary assessments. First, the expert should analyze whether the disease can be related to chemical exposure by a biologically plausible theory. Second, the expert should examine if the plaintiff was exposed to the chemical in a manner that can lead to absorption into the body. Third, the expert should offer an opinion as to whether the dose to which the plaintiff was exposed is sufficient to cause the disease.

Reference Manual at 419.

[1, 2] Dr. Castleman testified that, despite the heat generated by braking, "some asbestos," in the form of respirable fibers, remained in the brake pads, and that brake mechanics could be exposed to those fibers when grinding the pads or blowing out the housings. Flores testified that grinding the pads generated dust, which he inhaled. Dr. Bukowski testified that every asbestos exposure contributes to asbestosis. There is no question, on this record, that mechanics in the braking industry could be exposed to respirable asbestos fibers. But without more, this testimony is insufficient to establish that the Borg–Warner brake pads were a substantial factor in causing Flores's disease. Asbestosis 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." *See* 3 DAVID L. FAIGMAN ET AL., MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY § 28:22, at 447 (2007); *cf. id.* § 28:5, at 416 (noting that "it is generally accepted that one may develop mesothelioma from low levels of asbestos exposure"). While "[s]evere cases [of asbestosis] are usually the result of long-term, high-level exposure to asbestos, ... ' [e]vidence of asbestosis has been found many years after relatively brief but extremely heavy exposure.' " STEPHEN J. CARROLL ET AL., RAND INSTITUTE FOR CIVIL JUSTICE, ASBESTOS LITIGATION 13 (2005) (citing American Thoracic Society, *The Diagnosis of Nonmalignant Diseases Related to Asbestos: 1996 Update: Official Statement of the American Thoracic Society*, 134 AM. REV. RESPIRATORY DISEASE 363, 363–68 (1996)). One text notes that:

> There is general agreement from epidemiologic studies that the development of asbestosis requires heavy exposure to asbestos ... in the range of 25 to 100 fibers per cubic centimeter-year. Accordingly, asbestosis is usually observed in individuals who have had many years of high-level exposure, typically asbestos miners and millers, asbestos textile workers, and asbestos insulators.

Andrew Churg, *Nonneoplastic Disease Caused by Asbestos, in* PATHOLOGY OF OCCUPATIONAL LUNG DISEASE 277, 313 (Andrew Churg & Francis H.Y. Green eds., Williams & Wilkins 1998) (1988).

This record, however, reveals nothing about how much asbestos Flores might have inhaled. He performed about fifteen to twenty brake jobs a week for over thirty years, and was therefore exposed to "some asbestos" on a fairly regular basis for an extended period of time. Nevertheless, absent any evidence of dose, the jury could not evaluate the quantity of respirable asbestos to which Flores might have been

exposed or whether those amounts were sufficient to cause asbestosis. Nor did Flores introduce evidence regarding what percentage of that indeterminate amount may have originated in Borg–Warner products. We do not know the asbestos content of other brands of brake pads or how much of Flores's exposure came from grinding new pads as opposed to blowing out old ones.[12] There were no epidemiological studies[13] showing that brake mechanics face at least a doubled risk of asbestosis. *See Merrell Dow Pharms., Inc. v. Havner*, 953 S.W.2d 706, 715 (Tex. 1997). While such studies are not necessary to prove causation, we have recognized that "properly designed and executed epidemiological studies may be part of the evidence supporting causation in a toxic tort case," and "the requirement of more than a doubling of the risk strikes a balance between the needs of our legal system and the limits of science." *Id.* at 717–18. Thus, while some respirable fibers may be released upon grinding some brake pads, the sparse record here contains no evidence of the approximate quantum of Borg–Warner fibers to which Flores was exposed, and whether this sufficiently contributed to the aggregate dose of asbestos Flores inhaled, such that it could be considered a substantial factor in causing his asbestosis. *Union Pump*, 898 S.W.2d at 775; *see also Rutherford v. Owens–Illinois, Inc.*, 16 Cal.4th 953, 67 Cal.Rptr.2d 16, 941 P.2d 1203, 1219 (Cal.1997).

Thus, a literal application of *Lohrmann* leaves questions unanswered in cases like this. The evidence showed that Flores worked in a small room, grinding brake pads composed partially of embedded asbestos fibers, five to seven times per week over a four year period—seemingly satisfying *Lohrmann's* frequency-regularity-proximity test. Implicit in that test, however, must be a requirement that asbestos fibers were released in an amount sufficient to cause Flores's asbestosis, or the *de minimis* standard *Lohrmann* purported to establish would be eliminated, and the *Union Pump* causation standard would not be met. In a case like this, proof of mere frequency, regularity, and proximity is necessary but not sufficient, as it provides none of the quantitative information necessary to support causation under Texas law.

We recognize the proof difficulties accompanying asbestos claims. The long latency period for asbestos-related diseases, coupled with the inability to trace precisely which fibers caused disease and from whose product they emanated, make this process inexact. *Rutherford*, 67 Cal. Rptr.2d 16, 941 P.2d at 1218 (acknowledging that lengthy latency periods "mean that memories are often dim and records missing or incomplete regarding the use and distribution of specific products" and "[i]n some industries, many different asbestos-containing products have been used, often including several similar products at the same time periods and worksites"). The Supreme Court of California has grappled with the appropriate causation standard in a case involving alleged asbestos-related cancer and acknowledged the difficulties in proof accompanying such claims:

> Plaintiffs cannot be expected to prove the scientifically unknown details of carcinogenesis, or trace the unknowable path of a given asbestos fiber.... [W]e

12. We note that any asbestos fibers Flores encountered when blowing out brake housings would not necessarily have been from Borg–Warner brake pads but from whatever brand of pads Flores was replacing.

13. Epidemiological studies examine existing populations to attempt to determine if there is an association between a disease or condition and a factor suspected of causing that disease or condition. *Havner*, 953 S.W.2d at 715.

> can bridge this gap in the humanly knowable by holding that plaintiffs may prove causation in asbestos-related cancer cases by demonstrating that the plaintiff's exposure to defendant's asbestos-containing product in reasonable medical probability was a substantial factor in contributing to the aggregate *dose* of asbestos the plaintiff or decedent inhaled or ingested, and hence to the *risk* of developing asbestos-related cancer, without the need to demonstrate that fibers from the defendant's particular product were the ones, or among the ones, that *actually* produced the malignant growth.

Rutherford, 67 Cal.Rptr.2d 16, 941 P.2d at 1219.

Thus, substantial-factor causation, which separates the speculative from the probable, need not be reduced to mathematical precision. Defendant-specific evidence relating to the approximate dose to which the plaintiff was exposed, coupled with evidence that the dose was a substantial factor in causing the asbestos-related disease, will suffice. As one commentator notes, "[i]t is not adequate to simply establish that 'some' exposure occurred. Because most chemically induced adverse health effects clearly demonstrate 'thresholds,' there must be reasonable evidence that the exposure was of sufficient magnitude to exceed the threshold before a likelihood of 'causation' can be inferred." Eaton, 12 J.L. & Pol'y at 39. Dr. Bukowski acknowledged that asbestos is "plentiful" in the ambient air and that "everyone" is exposed to it. If a single fiber could cause asbestosis, however, "everyone" would be susceptible. No one suggests this is the case. Given asbestos's prevalence, therefore, some exposure "threshold" must be demonstrated before a claimant can prove his asbestosis was caused by a particular product.

In analyzing the legal sufficiency of Flores's negligence claim, then, the court of appeals erred in holding that "[i]n the context of asbestos-related claims, if there is sufficient evidence that the defendant supplied *any* of the asbestos to which the plaintiff was exposed, then the plaintiff has met the burden of proof." 153 S.W.3d at 213 (emphasis added). This analysis is much like that rejected by the *Lohrmann* court as "contrary to the Maryland law of substantial causation": "that if the plaintiff can present any evidence that a company's asbestos-containing product was at the workplace while the plaintiff was at the workplace, a jury question has been established as to whether that product" proximately caused the plaintiff's disease. *Lohrmann*, 782 F.2d at 1162. Instead, as outlined above, a plaintiff must prove that the defendant's product was a substantial factor in causing the alleged harm. *Union Pump*, 898 S.W.2d at 775.

We note too, that proof of causation may differ depending on the product at issue; "[i]n some products, the asbestos is embedded and fibers are not likely to become loose or airborne, [while] [i]n other products, the asbestos is friable." *In re Ethyl Corp.*, 975 S.W.2d 606, 617 (Tex.1998); *see also Gideon v. Johns-Manville Sales Corp.*, 761 F.2d 1129, 1145 (5th Cir.1985) (noting that "all asbestos products cannot be lumped together in determining their dangerousness"); *Hardy v. Johns-Manville Sales Corp.*, 681 F.2d 334, 347 (5th Cir.1982) (distinguishing between "airborne asbestos dust and fibers from thermal insulation" and other "products containing asbestos—in whatever quantity or however encapsulated"); *In re R.O.C. Pretrial*, 131 S.W.3d 129, 136–37 (Tex.App.-San Antonio 2004, no pet.) (noting that "the type of asbestos that causes asbestosis is 'friable' asbestos," and that the claimants "had the initial burden to show

that they were exposed to asbestos ... in a form that is capable of causing injury from appellee's products"). We have recognized that "[t]his, of course, bears on the extent and intensity of exposure to asbestos," *Ethyl Corp.*, 975 S.W.2d at 617, two factors central to causation. We have described situations in which workers were "so covered with asbestos as to be dubbed 'the snowmen of Grand Central.'" *Temple–Inland*, 993 S.W.2d at 95. That is not the situation here, where the asbestos at issue was embedded in the brake pads. Dr. Castleman testified that brake mechanics could be exposed to "some" respirable fibers when grinding pads or blowing out housings, and Flores testified that the grinding generated dust.[14] Without more, we do not know the contents of that dust, including the approximate quantum of fibers to which Flores was exposed, and in keeping with the *de minimis* rule espoused in *Lohrmann* and required by our precedent, we conclude the evidence of causation in this case was legally insufficient. *Lohrmann*, 782 F.2d at 1162; *Union Pump*, 898 S.W.2d at 775.

III

Conclusion

Flores alleged two claims: negligence and strict liability. Because each requires proof of substantial-factor causation, both fail. *See Union Pump*, 898 S.W.2d at 775. We reverse the court of appeals' judgment and render judgment for Borg–Warner. TEX.R.APP. P. 60.2(c).

Justice O'NEILL did not participate in the decision.

G. Byron KALLAM, M.D.; Mary Angeline Finke, M.D.; The Medical Clinic of North Texas, P.A.; Obstetrical and Gynecological Associates of Arlington; Gerald Thompson, M.D.; and Family Health Care Associates, Petitioners,

v.

Sharon BOYD, Respondent.

No. 05–0027.

Supreme Court of Texas.

Argued Dec. 7, 2006.

Decided June 15, 2007.

Background: Patient filed a medical malpractice case against physicians and medi-

14. The only other evidence possibly relating to causation was chapter 8 of Dr. Castleman's book, which the trial court admitted over Borg–Warner's hearsay objection. The chapter discusses a number of studies involving friction products and includes an annotated bibliography with short summaries of publications discussing potential asbestos hazards from friction product manufacture, fabrication, and replacement. Even considering chapter 8 in its entirety, the information it contains does not supply the missing link in the evidence here. The chapter consists of a five-page history of asbestos in friction products, as well as research and the government regulation thereof, followed by the annotated bibliography and several case reports of mesothelioma in brake repair workers. But nowhere does it quantify the respirable asbestos a brake mechanic like Flores might have inhaled or whether those amounts were sufficient to cause asbestosis. The chapter is silent on Borg–Warner products (although it does contain references to Bendix and General Motors), and it does not cite epidemiological studies showing a doubling of the asbestosis risk for brake mechanics. Thus, for the reasons outlined above, the information contained in chapter 8 does not provide evidence of causation, and we do not reach Borg–Warner's complaint that the trial court erred in admitting the evidence.