

458 S.E.2d 462 (1995)

TARMAC MID-ATLANTIC, INC.

v.

SMILEY BLOCK COMPANY.

Record No. 941648.

Supreme Court of Virginia.

June 9, 1995.

463 \*463 William L. Thurston (Beale, Balfour, Davidson, Etherington & Parker, on briefs), Richmond, for appellant.

John R. Alford, Jr. (John R. Alford, Caskie & Frost, on brief), Richmond, for appellee.

Present: All the Justices.

KEENAN, Justice.

In this case, we consider whether the trial court properly sustained a motion to strike, and whether, in connection with that ruling, the court abused its discretion in excluding expert testimony on the basis that it lacked an adequate foundation.

Smiley Block Company, Inc. (Smiley), filed a motion for judgment to recover sums due from **Tarmac Mid-Atlantic, Inc.** (**Tarmac**) in payment for "cupola slag." **Tarmac** denied it was indebted to Smiley and filed a counterclaim asserting various theories, including breach of express and implied warranties. **Tarmac** alleged that the slag Smiley provided did not conform to industry standards, and that when **Tarmac** used the slag in its manufacture of concrete masonry block, the block developed defects known as "pop-outs."

464 At the jury trial, **Tarmac's** evidence on its counterclaim also constituted its sole evidence in defense of Smiley's breach of contract \*464 action. When the trial court sustained Smiley's motion to strike **Tarmac's** evidence on the counterclaim, it also ruled in favor of Smiley on the motion for judgment, finding that there were no issues remaining for the jury's determination. We review the evidence and all reasonable inferences therefrom in the light most favorable to **Tarmac**. See Medcom, Inc. v. C. Arthur Weaver Co., 232 Va. 80, 82, 348 S.E.2d 243, 245 (1986).

James E. Ritter, operations manager of **Tarmac's** Richmond Block plant, testified that he began purchasing slag from Smiley around May 1992. Slag is a lightweight aggregate that is incorporated together with other materials in the manufacture of concrete products. Over the next year, pumice and the slag purchased from Smiley were the only lightweight aggregates that the Richmond Block plant used in its production.

Before **Tarmac** began to order the slag, Henry Smiley had provided Ritter with a bag of the aggregate, a piece of concrete block, and a certification stating that the slag met the criteria for lightweight aggregates established by the American Society for Testing and Materials. In particular, the certification stated that the material tested exhibited no pop-outs. Ritter testified that, in buying the slag, **Tarmac** relied on the certification and on Smiley's representations as to the quality of the material.

In early 1993, **Tarmac's** customers complained to Ritter about the block **Tarmac** had manufactured using Smiley's slag. Ritter examined the block used in construction projects and noted pop-outs, or "small chunks that popped out of the face of the block." To remedy the problem, **Tarmac** went to the construction projects and repaired the block.

Ritter then submitted several samples to a laboratory, Froehling & Robertson, Inc., to determine the cause of the pop-outs. He identified three reports received from Froehling & Robertson showing its test results. Ritter stated that he and Richard Wright, **Tarmac's** production manager, obtained the samples that were the subject of two reports made in July 1993. The first sample was a block containing pop-outs, taken from **Tarmac's** stock, and the second was a bag of slag, taken from

slag received from Smiley and stockpiled in **Tarmac's** yard. Wright delivered both these samples to Froehling & Robertson. A third report, made in September 1993, provided an analysis of two slag samples, which Ritter stated he collected from **Tarmac's** stockpile and personally delivered to Froehling & Robertson.

Ritter stated that **Tarmac** regularly hired a trucking company to deliver shipments of slag purchased from Smiley to **Tarmac's** plant, where **Tarmac** stored the slag in open bins. The samples of slag provided to Froehling & Robertson came from these stockpiles. Ritter did not obtain a sample directly from Smiley's yard for testing. He said that he did not know what other materials might have been carried in the delivery trucks, nor whether foreign materials such as seeds or dust might have blown into the slag while it was in **Tarmac's** stockpiles. Ritter acknowledged that pop-outs in the block could be caused by the introduction of any material that tends to expand, such as a seed.

August A. Thieme of Froehling & Robertson, the author of the test reports, qualified as an expert in inorganic and analytical chemistry. Thieme stated that each sample provided to him by **Tarmac** contained high levels of magnesium.<sup>[4]</sup> He concluded that magnesium compounds in the slag had caused the pop-outs in the manufactured block. Thieme explained that when slag is derived from dolomitic-type limestone, the magnesium contained in the stone may be subjected to excessive temperatures, or "overburning." As a result, the magnesium is \*465 slow to rehydrate upon exposure to moisture and carbon dioxide, and it remains in an unstable state. In the process of rehydration, the material expands, increases in volume, and exerts pressure, leading to a "propelling of the surface from the block."

465

Thieme stated that he had considered whether other components of the block, such as cement and additives, or the presence of contaminants in the slag, could have been the source of the pop-outs. He acknowledged that in testing material such as this, it is necessary to consider matters such as handling, sampling, storage, and transportation. However, Thieme testified that he had not identified any other cause of the high magnesium content he observed, and he concluded that the slag material must have been the only source, since any source other than the slag "would almost have to be a burned lime of some sort." Thieme also stated that, although unstable burned lime is manufactured for certain uses, it is shipped in individually sealed containers and typically is not carried in open trucks.

Thieme stated that all the materials tested were delivered to him in his laboratory. He acknowledged that he would have preferred to draw a slag sample directly from Smiley's yard for testing.

During trial, the court took under advisement Smiley's motions to exclude Thieme's testimony based on a lack of adequate foundation. Smiley argued that the samples Thieme analyzed had been exposed to many sources of contamination while they were out of Smiley's possession and control, so that Thieme's testimony was unreliable and speculative. After Ritter and Thieme had testified, and before **Tarmac** presented evidence of damages, Smiley moved to strike **Tarmac's** evidence on its counterclaim. Although Smiley raised various arguments, the trial court's comments show that it sustained the motion based on its conclusion that Thieme's testimony was inadmissible.

Citing *Mary Washington Hospital, Inc. v. Gibson*, 228 Va. 95, 319 S.E.2d 741 (1984), the trial court stated that, in the present case, "too many variables" rendered the expert's testimony "open to speculation," because the evidence raised questions about conditions that may have affected the slag during its transportation and storage. The trial court noted that **Tarmac's** "own expert is saying that he would have preferred to have come up here and gotten it at Smiley, and [it] is obvious why he would have preferred that, because the test itself would have been much more reliable." The trial court granted the motion to strike, concluding that "in this case, because of the nature of the claim[,] fundamental fairness dictates that you have got to show a better chain than that."

On appeal, **Tarmac** argues that the trial court erred in granting Smiley's motion to strike. In particular, **Tarmac** contends that Thieme's testimony regarding the nature of the substances he tested was admissible, and if the trial court had not improperly excluded it, **Tarmac** would have presented a prima facie case on its breach of warranty claim. In response, Smiley reasserts the arguments it raised in the trial court, contending that Thieme's testimony was speculative because it was based on an assumption, not supported by the evidence, that the slag samples he examined were in the same condition as when they left Smiley's yard. We disagree with Smiley.

"The admission of expert testimony is committed to the sound discretion of the trial judge, and we will reverse a trial court's

decision only where that court has abused its discretion." Brown v. Corbin, 244 Va. 528, 531, 423 S.E.2d 176, 178 (1992). As a general rule, a litigant is entitled to introduce all competent, material, and relevant evidence tending to prove or disprove any material issue raised, unless the evidence violates a specific rule of admissibility. Barnette v. Dickens, 205 Va. 12, 15, 135 S.E.2d 109, 112 (1964); McNeir v. Greer-Hale Chinchilla Ranch, 194 Va. 623, 628-29, 74 S.E.2d 165, 168-69 (1953).

466 Expert testimony is admissible in civil cases to assist the trier of fact, if the evidence meets certain fundamental requirements, including the requirement that it be based on an adequate foundation. See Code §§ 8.01-401.1, 8.01-401.3; Lawson v. Doe, 239 Va. 477, 482-83, 391 S.E.2d 333, 336 (1990); Clark v. Chapman, 238 Va. 655, 664-65, \*466 385 S.E.2d 885, 891 (1989). Expert testimony is inadmissible if it is speculative or founded on assumptions that have no basis in fact. See Gilbert v. Summers, 240 Va. 155, 159-60, 393 S.E.2d 213, 215 (1990); Cassady v. Martin, 220 Va. 1093, 1100, 266 S.E.2d 104, 108 (1980).

In addition, such testimony should not be admitted unless the trial court is satisfied that the expert has considered all the variables bearing on the inferences to be drawn from the facts observed. See Swiney v. Overby, 237 Va. 231, 233-34, 377 S.E.2d 372, 374 (1989); Grasty v. Tanner, 206 Va. 723, 727, 146 S.E.2d 252, 255 (1966). Finally, the trial court should refuse to admit expert testimony unless there is proof of a similarity of conditions existing at the time of the expert's tests and at the time relevant to the facts at issue. Runyon v. Geldner, 237 Va. 460, 463-64, 377 S.E.2d 456, 458-59 (1989).

These principles were applied in Mary Washington Hospital, 228 Va. at 99, 319 S.E.2d at 743. In that case, this Court held inadmissible evidence regarding an architect's tests made at the location where the plaintiff had fallen on a sidewalk, because there was insufficient proof that the site had not changed materially during the 23 months between the accident and the inspection. The uncontradicted evidence showed there had been construction work in the area during that time, and that the section of concrete on which the plaintiff slipped had been destroyed. These changes constituted "missing variables" not considered by the architect, so that the delayed inspection of the sidewalk was not reliable and probative evidence of its condition at the time of the accident. *Id.*

In contrast, the evidence in the present case showed that the condition of the slag was essentially the same at the time of its shipment and at the time of the expert's testing. Ritter's testimony regarding the transportation, storage, and sampling of the slag was prima facie evidence that the samples Thieme tested had originated in the slag supplied by Smiley. Further, it could be inferred that, with the passage of time, the samples would become more stable rather than less so, due to the tendency of the overburned magnesium to rehydrate slowly. Thus, unstable magnesium found at the time of testing would have been unstable at an earlier time, as well.

In addition, there was no positive evidence showing any alteration of the slag or any intermixture of foreign materials, other than the fact that, in one of the samples, the slag was present together with other materials in a finished concrete block. Further, the evidence showed that Thieme had considered and excluded other variables that would affect his conclusions, such as the possibility that materials other than slag were the source of the high levels of magnesium. Thus, we hold that **Tarmac** adequately provided a foundation for the admission of Thieme's test results.

Although Smiley argues that in various respects Thieme's conclusions were open to challenge, any such weaknesses in his testimony were not grounds for its exclusion, but were matters properly to be considered by the jury in determining the weight to be given the evidence. See Ford Motor Co. v. Bartholomew, 224 Va. 421, 430, 297 S.E.2d 675, 680 (1982); Martin v. Penn, 204 Va. 822, 826, 134 S.E.2d 305, 307 (1964). Therefore, we conclude that the trial court abused its discretion in refusing to admit Thieme's testimony.

Smiley further argues that, even if Thieme's testimony had been admitted at trial, **Tarmac** failed to present a prima facie case on its breach of warranty counterclaim. Smiley contends that **Tarmac's** evidence did not show either that a warranty was made or that **Tarmac** relied on any such warranty. We disagree. **Tarmac** presented evidence that Ritter received and relied on samples of block and slag and a certification stating, among other things, that the material tested had no pop-outs. Granting **Tarmac** the benefit of all reasonable inferences to be drawn from the evidence, we find that **Tarmac** presented sufficient evidence on these issues to create a question for the jury's determination. See Code § 8.2-313.

For these reasons, we conclude that the trial court erred in sustaining Smiley's motion to strike **Tarmac's** counterclaim.

467 We will reverse the trial court's judgment and \*467 remand this case for a new trial consistent with the principles expressed in this opinion.

*Reversed and remanded.*

[\*] Ritter testified that when he provided two slag samples to Thieme for his September 1993 report, he also delivered a sample of bottom ash received from a **Tarmac** plant in South Carolina, which was submitted to be tested for reasons not revealed by the record. Thieme found high levels of magnesium in all three samples. He stated that the entire group of samples tested for his September 1993 report was labeled "slag aggregate," and that he was not aware that one of the samples was actually bottom ash. Smiley cites these facts in support of its argument that Thieme's testimony did not have an adequate foundation. However, we do not consider this evidence in evaluating the admissibility of the testimony, because neither the record nor Smiley's argument on appeal explains the significance of the cited facts.

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