

Are scented candles damaging your home?

By Joe Frey

The use of candles dates back to prehistoric times. They've been used for lighting, heating, and decoration. Recently, aromatherapy candles have touted relaxation benefits and mind/body healing. But however soothing candles may be to your mental state, however appealing their odors, and however romantic a mood they set, candles may be causing irreparable damage to your home — and your insurance may not pay for it.

The making of candle soot

Many of the popular scented candles today are made by mixing oils into the candle wax. The more oil that's put into a candle, the stronger the odor will be. However, more oil also means a higher potential for soot that dissipates into the air as your candle burns. And the soot eventually coats your carpets, drapes, and furniture.

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It works this way: A candle must have the right amount of wax, air, and wick in order to burn cleanly. If any foreign particles are introduced into that formula, the burning mixture is thrown off-kilter, causing the candle to emit more soot. Too much oil in the wax of a candle can cause sooting, but so can too much wick and too much (or too little) air circulation around the candle.

Oftentimes, the soot particles become electrically charged and stick to plastic and metal surfaces. The particles travel through duct work and when they are forced out of the vents. Forced air blows the charged soot throughout the home and the soot eventually settles on other charged surfaces, like your furniture. After the soot settles, cleaning it off your walls, carpet, couch, and appliances becomes impossible. The electrically charged bond is too strong for household cleaners to break. You have little choice but to replace the soiled surfaces or buy new items entirely.

Ron Bailey, engineer and owner of Bailey Engineering Corp. based in Palm Beach Gardens, Fla., has tested new and used candles and has found that some will cause major problems for homeowners. One of Bailey's tests involved using a model home as the proving ground. He burned four candles for 15 hours (or 60 candle-hours) and had to stop the test because significant soot had deposited on the walls, appliances, and drapes.

Bailey has seen actual cases in which tens of thousands of dollars of damage was done to the

home. "It's eye-opening. They had to replace the carpets and clean up and repaint the walls," he says.

Chris Cole, an interior restorer based in Macon, Ga., saw one case in which thousands of dollars of damage was done from burning candles. "One woman burned too many candles in her house and she was also burning potpourri and incense," Cole says. "She was just begging for problems." When all was said and done, the woman had an \$8,000 repair bill. She had to have her walls and ceilings repainted and her floors professionally cleaned.

The woman blamed Cole's company for the damage, claiming it had not installed her heating system properly. Cole's insurance company paid for the woman's damage and Cole replaced the heating system and refinished the walls and ceilings. Two weeks after Cole's company replaced the woman's heating system, the walls were again covered in soot, and that's when Cole was able to attribute the damage to candle soot.

Damage in the hundreds of thousands of dollars is possible. One homeowner in Texas suffered nearly \$200,000 in damages and replacement costs because of candle soot. The soot particles infested her heating and cooling duct work, which had to be replaced, and much of her furniture was covered by candle soot. Her insurance company, USAA Insurance, originally paid her claim of \$28,000 to repair damage to the structure of the house. The homeowner and USAA are still trying to reach an agreement on how to pay for the remaining damages. USAA is "subrogating" that case, meaning it's seeking compensation now from The Gap's insurance company because The Gap sold the candles (made by Ceres) that damaged the structure of the home. The homeowner has also filed a lawsuit in Dallas District Court against The Gap.

Buying a less-problematic candle

Candles that are soft to the touch generally have too much oil in them. This will cause the burn mixture to produce soot. Candles that are overly aromatic are often soot culprits since the scents are produced by mixing oil into the wax.

Glass-encased candles can be problematic, too. As the candle burns, the wick descends farther into the container, reducing the air supply needed to ensure a clean-burning flame. Many times, you can see the results of a soot-producing candle on the rim of your glass container in the form of a black ring.

Candles that are produced overseas can contain more oil and a lower grade of wax. Some candles even contain lead, which can lead to air-quality problems. Maryanne McDermott, executive vice president of the National Candle Association, assures insure.com that no reputable candlemaker in the United States uses lead in its candles.

Frank Vigil, a building scientist specialist with the Applied Building Science Team at North Carolina State University, says the problems from candle soot are becoming more and more evident. Vigil has investigated several cases, including one in which he was hired by State Farm Insurance Co. "There was quite substantial property damage [in that case], over \$10,000," he says. State Farm ultimately denied the claim because the damage was not caused by a "named peril." But Vigil says he

knows of many claims made against insurance companies as a result of soot deposition from candles. "This is becoming a big issue, near epidemic in proportions," he says.

Home insurance may not pay

Insurance companies have not addressed the issue of damage from candle soot specifically in homeowner's policy language, and the industry's stance on the issue is ambiguous.

"There's a potential for coverage, but like every other claim, it will be investigated on its own merits," says Phil Supple, spokesperson for State Farm. "We would look particularly closely at the 'named peril provision' in the policy." That's the provision that spells out in clear terms what is and what is not covered. In addition, home insurance policies have what's called a "sudden and accidental occurrence" provision, which separates harmful events that happen overnight from those that develop over time.

"Candle soot deposition is likely to fall under the exclusionary language of slow and repeated occurrences," says Mike Binns, an underwriting manager at Farmers Insurance Group. "Cases wouldn't likely fit the 'sudden and accidental' definition of the policy." Binns adds that Farmers judges every claim on its individual merits and if any homeowner were able to prove that a candle soot problem was sudden and accidental, Farmers would cover the damage the candles caused.

"When there's structural damage caused by the contents of a candle wick, we would pay the claim," says Hal Schade, a spokesperson for USAA. Schade also says USAA has had a number of candle soot claims come in, but can't say how many were paid. "It all depends on the specifics of the case," he says. While USAA may pay for structural damage, payment for damage to your possessions is uncertain.

Can you be in the dark when a candle's burning?

Aromatic candles pose health hazard

No studies have been done to analyze the toxicity of candle emissions and their potential health effects, but one air-quality manager in Florida, David Krause, has proven the particles that candles throw off while burning are potentially deadly.

Krause says that candle soot particles are the same as particles given off by burning diesel fuel. People exposed to diesel soot over an extended period of time, say for eight hours a day for a year, have been known to develop respiratory problems. The same can be said for candles, Krause asserts. "The materials found in candle soot are the same as those found in diesel soot. These include 11 polycyclic aromatic hydrocarbons (PAH) that have been deemed 'toxic air contaminants' by the state of California."

Some of the air contaminants include toluene, benzene, methyl ethyl ketone (MEK), and naphthalene — substances commonly found in paint, lacquer, and varnish removers. The

Environmental Protection Agency has determined that two forms of benzene — which is also found in candle soot — are "probable human carcinogens." Some scented candles also emit lead, which is a widely known health danger.

Krause, who formerly worked for the state of Florida Department of Health, says the air contaminants are carcinogens, or cancer-causing agents, and can affect the human reproductive system. Krause will announce his findings at the Society of Toxicology national conference in New Orleans on March 18. Binns from Farmers says that if a cross section of his company's policyholders were asked if they realized soot was being deposited by burning candles, the majority would answer "no." "I wouldn't have had the slightest inkling that a candle was producing [damaging soot] unless everytime I lit the candle it produced black smoke for 15 minutes," he says.

Supple of State Farm agrees that few people are aware of the problem. If complaints of soot damage continue to rise, he says the company will produce literature making its policyholders aware of the problem.

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The candlemaking industry itself is doing little to announce that its products can be harmful. Two candles that insure.com purchased had only cursory warning labels. One reads, "Never leave a burning candle unattended. Place candle on a safe surface away from flammable objects. Straighten and trim wick before lighting. Keep out of reach of children." The other reads much the same, but lacks advice about trimming or straightening the wick.

One candle producer, Candle-Lite Inc., based in Leesburg, Ohio, does provide specific warnings about soot and how to reduce soot deposition. Some of its warning labels read, "For best burning performance and to reduce soot emissions, trim wick to ¼ inch, and do not burn candle near a draft." Candle-Lite consumer affairs manager Carole Cottrill says her company sees its larger candles as an opportunity to inform consumers why they should trim wicks. Cottrill admits that not all of Candle-Lite's candles have the specific warning label. "Where there's room, we put it on," she says.

Most labels don't say *why* consumers should trim the candle's wick before lighting. "The labels are to ensure the candles burn evenly," says Maryanne McDermott, executive vice president of the National Candle Association, a group that provides guidelines for the industry. McDermott says that an even-burning candle won't produce soot.

But uneven burning candles will. "There could be deposits that certainly would be noticeable," says Jim Becker, an engineer for American Greetings' candle unit. "I've had experiences in my home in which I've burned a candle and there was a lot of smoke that was generated. I'm sure a very bad situation could arise."

However, the candlemaking industry is reluctant to put warning labels on their products because, according to McDermott, "Candles have been used for hundreds of years without problems." Of course, the tremendous popularity of aromatherapy and scented candles presents problems that no one has dealt with before. McDermott also says that burning candles in drafty places — often a cause of sooting — is a "dumb thing to do. You can see [the uneven burning]. I think it's common sense."

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