

Candles In The House

This may or may not have been a problem you have encountered, YET; however, you may find this interesting anyway and perhaps reconsider burning scented or aromatic candles in your own home.

A growing number of incidents of soot deposition from scented and/or aromatic candles are being blamed on builders, H/VAC manufacturers, installation & repair companies & contractors. Until recently, there was little compelling evidence or proof to direct the blame to candle use. Tests recently conducted have confirmed the source of this soot deposition. Further testing is still on going; however, if you are facing the charge or claim that work you performed or equipment you installed is responsible for this type of damage, it MAY actually be from candles. There's enough information available now to directly link this type of soot deposition to candles.

Any information regarding examples of cases I've described above would be most appreciated. In return, I will gladly provide the names & contact information to the IAQ, Building Science and Combustion Experts who have been enormously helpful in researching this problem.

Subj: An Emerging Indoor Air Quality Issue

(copy of letter sent to ARI, ASHRAE, ACCA, NADCA and NAHB)

According to several IAQ (Indoor Air Quality) Specialists soot deposition & contamination from candle use in residences is becoming a more frequent problem due to the popularity of scented and/or aromatic candles. We still haven't determined the impact of this exposure to health, tests are currently underway. A report has been filed with the CPSC regarding a particular make of aromatic candles (CPSC Product Report # H9790225A).

The emissions and soot produced by some of these scented and/or aromatic candles can not only damage a home, it's contents and the ventilation system but there is evidence that it also can also present a health hazard from breathing sub-micron particulate soot emitted, especially to children, the elderly or anyone with a compromised respiratory system. Sub-micron means > 1 micron, the EPA and the American Lung Assn. have determined that particulate matter 2.5 microns and smaller are the most detrimental to our health. These particles are so small they are able to pass thru our body's own "filter system", as a result they are inhaled deep with in the lungs and absorbed by the bloodstream or can become imbedded in the linings of the lungs.

It is currently speculated (by Chemists, IAQ Specialist and other scientists) that the cause of this is due to candle manufacturers adding more & more essential and fragranced oils (some of which are not even suitable for combustion) to candles in order to achieve a higher or more intense fragrance while burning. It also appears that many inexperienced & amateur candlemakers have jumped into the manufacturing of candles to capitalize on their current popularity without the proper training or expertise. The result is an abundance of inferior or poorly performing candles burning in alot of homes.

I have a sizable amount of research on this issue and would be happy to pass it on or put you in touch with some of the professionals I have been communicating with on a regular basis regarding this emerging issue. We are likely to see an increasing incidence of soot damage from candles in homes, since candle sales are at an all time high with further growth expected (according to a study performed by Kline & Co.).

As a side note, I have spoken to no less than 10 builders, H/VAC companies (as of 3/31 I've heard from or about 22 of these cases + counting) &/or contractors around the country who have been the target of litigation or pending civil action as a direct result of soot deposition from candles. At least check into this issue so you can educate your membership, then they will be able to defend themselves in these court cases!

Regards,

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Here are a few links to further info:

"Graying of the Walls"

<http://www.housing.wvu.edu/staff/mike/facility.htm>

*****"Black Stains in Houses: Soot, Dust or Ghosts? *****

<http://homeenergy.org/archive/hem.dis.anl.gov/eehem/98/980109.html>

Indoor Air Quality & Candles

<http://members.tripod.com/~rkfabf/index.html>

Frank Vigil - Building Science Expert with A. E.

<http://www.aec.ncsu.edu/staff/fvigil.htm>

Energy Efficient Building Assn message board

<http://www.eeba.org/ee-building-list-archive/msg00271.html>

Article on Aromatic Candles /September 1997:Cover Story

<http://www.happi.com/special/sep972.htm>

Bailey Engineering Home Page

<http://members.aol.com/BaileyIAQ/>

E-Mail Section of "Graying of the Walls"

<http://www.housing.wvu.edu/staff/mike/graywall/soot.html>

PS.

With construction advances allowing builders to produce a "tighter" (fewer air exchanges) & more energy efficient home this is a problem we are likely to see occurring more & more frequently in newly constructed homes. Keep in mind it is not the home or the H/VAC system that is causing the soot deposition, it's scented &/or aromatic candles - the tighter conditions just allow for the deposition to accumulate & become evident to the homeowner more quickly. Unfortunately, once it has gotten to the stage where it's obvious or noticable it's often too late to prevent alot of the property damage. Apparent soot deposition on walls, plastics, & electronics and other items, not in the general vicinity of the candle, typically indicates that the H/VAC system & ducts have been contaminated