



February 23, 1999

Wayne C. Johnson
Air Conditioning, Heating & Refrigeration News
Business News Publishing Company
755 West Big Beaver Road, Suite 1000
Troy, MI 48007

Dear Mr. Johnson:

We would like to comment on the article "Moisture Contamination: What's Wrong with Duct Liners" by Daniel Karpen (January, 1999). The article documents part of the research of Dr. Sidney Crow at Georgia State University.

Specifically, we would like to address Mr. Karpen's comments that "much of this liner [fiber glass] must be considered suspect as a medium for the growth of fungi, giving off VOC's found in polluted indoor air." It is important to note that fiber glass duct liners are inorganic and inert and do not support mold growth. The conditions that promote mold growth, that is, the presence of dirt and water, do not normally occur in properly designed, installed, operated and maintained HVAC systems. However, in instances where water is allowed to accumulate in the system, and/or the system is shut down for periods of time, conditions can occur which allow mold growth to occur in an air handling duct system whether it is lined or unlined.

Mr. Karpen says that Dr. Crow's team found that "the acrylic latex facing of the duct liner is also a nutrient source for the production of fungi. Initially, the fungi may colonize the acrylic material, but eventually the fungi will permeate the fiberglass matrix". However, a recent study (1998) by Dr. Harriet Burge, of the Harvard School of Public Health, confirms that molds do not, in fact, utilize the binder, the air stream surface coating or the glass in HVAC insulation products as nutrients.

Mr. Karpen further comments that "fiber glass was found to be susceptible to fungal colonization in environmental chambers dependent upon relative humidity." However, according to a recent Duke University study (1997), mold growth appears to be linked to dew point conditions rather than the relative humidity. Researchers found that sustained mold growth could occur when wet conditions were produced through condensation, as the air is cooled past its dew point. It is important to note, however, that condensation is not the only source of water in an HVAC system. It can occur as a result of water carryover due to faulty coil design, dirty coils, or failure of the drain pan to operate properly, or improperly operating humidifiers.

Mr. Karpen comments that "duct liner manufacturers will have to test their products to determine if the materials will support the growth of indoor air quality-polluting fungi." In fact, on-going stringent testing in accordance with UL and ASTM standards confirms that fiber glass duct liners do not support mold growth.

We hope this information serves to clarify some of the misconceptions about fiber glass duct liner and indoor environmental quality. Fiber glass duct liner continues to be an excellent thermal and acoustic insulation and a positive contributor to the overall quality of the indoor environment.

Sincerely,

A handwritten signature in cursive script, appearing to read "George".

George R. Phelps
Director, Government and Industry Affairs