

The Commercial Inspector

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ask the inspector

Q. Should I have my building's ducts cleaned? What are the benefits of doing this?

A. Poor indoor air quality presents an invisible hazard and potential excess in cost in commercial buildings. Dirty systems and bad air build up gradually, and poor indoor air quality has been found to be a major contributor to lost work days and school. A buildup of dirt on heating or cooling coils can result in a 20 to 30 percent decrease in an HVAC system's efficiency.

Through normal occupation of a building, dander, dust and chemicals are introduced into the air. These contaminants are pulled into the HVAC system and recirculated several times a day. This can cause buildup in the ductwork. While a contaminated HVAC system doesn't necessarily mean unhealthy air, the situation may be contributing to larger health issues or harboring contaminants that could cause serious problems for people with respiratory health conditions.



Contaminants in the heating and cooling system can create more resistance in the

snapshots from the field

What Is This Photo?



- A) This is an ashtray.
- B) This is an HVAC duct with dirt and debris.
- C) This is a hole being filled with debris.
- D) Not sure what this is.

(answer on the back)

ductwork, not allowing the air to flow as efficiently as designed. This causes the fans and equipment to work harder, potentially shortening the life of the equipment and using more energy.

While not a cure-all, cleaning a building's ductwork can allow the HVAC system to run more efficiently and can reduce potential health issues. During cleaning, the HVAC system is placed under continuous negative pressure to prevent the spread of contaminants. This continuous negative pressure allows very fine particles to be removed from the system as they become airborne, helping to capture the fine particles and not allow them back into the air.

A qualified indoor air quality specialist can assist in determining whether duct cleaning is right for your building.

for your information

Improve Your Building's IAQ

The subject of indoor air quality (IAQ) receives a lot of attention, as IAQ can affect workers' health, comfort and productivity. You know you want your building to have good IAQ, but do you really know what that means?

Good IAQ means that clean air is circulating and at a comfortable temperature and healthy humidity. Air contaminants may come from various sources both inside and outside a building, including airborne.

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chemicals, bacteria, fungi, pollen and dust.

The following are potential sources of contaminants in office buildings:

- » Cleaning chemicals
- » Pesticides
- » Building materials
- » Fragrances and cosmetics
- » Dust from outdoors
- » Consumer products

maintenance matters

HVAC Duct Tips

Often unseen, your building's duct system carries the conditioned air from the furnace and air conditioner to the rooms and work areas. The ducts are an important part of your building's heating and cooling system, and they shouldn't be neglected. Here are some tips to keep ductwork in top condition, which can help save money on energy bills.

- » Check ducts for air leaks. First look for sections that should be joined but have separated; then look for obvious holes and seal.



- » Insulate ducts. Unfortunately, the ductwork that resides in unconditioned spaces, such as crawl spaces, often is uninsulated, and this can cost you extra money in energy bills. It may be best to call in a qualified professional to insulate your ducts.
- » Don't use plain old duct tape. Contrary to its name, the duct tape you are probably most familiar with is not the best for ducts. Look for tape with the Underwriters Laboratories (UL) logo on the package, as this doesn't degrade, crack or lose its bond with age.
- » Prevent moisture buildup. Be sure a

well-sealed vapor barrier exists on the outside of the insulation on cooling ducts to prevent moisture buildup.

did you know?

What's a BTU?

A common measure of power, the British thermal unit — or BTU — is the amount of energy needed to cool or heat one pound of water by one degree. One BTU is roughly equivalent to burning one 4-inch kitchen match. That doesn't sound like much, but the typical home uses approximately 100 million BTUs annually. Around 44 percent of the total is used for heating.

BTUs are typically used as a measurement in the power, steam generation, heating and air conditioning industries. They are also used as a measure of agricultural energy production, i.e., BTU/kg.

So what's a BTU? One BTU is equivalent to the following:

- » .293074 watt hours
- » 252 to 253 calories (little calories)
- » .25 kilocalories (large or food calories)

Snapshots from the field

The correct answer is B. This is an HVAC duct with dirt and debris. Time to have the ducts cleaned!