FSTC GREEN SHEET

Getting Your Ducts in a Row: Finding Hidden Leaks that Waste You Money

Lowering your energy bill really boils down to how diligent you are at catching the dozens of little ways that energy gets wasted. Just like a leaky boat, your restaurant is full of "energy leaks" and the more of those leaks that you can plug the better your boat will stay afloat. This month we will discuss a common "energy leak" that is also a real leak.

OUT OF SIGHT – OUT OF MIND

Heated or cooled air in a restaurant is moved around through a system of metal ducting. Some of the ducts carry air directly from the heating and air conditioning unit and others return air back to the unit. The ductwork is made up of individual sections that slip together and are sealed with everyone's favorite adhesive - duct tape. Typically, all of this ducting is hidden away above the ceiling or below the floor in a crawl space. The important word here being "hidden". If something goes wrong with the duct system, you will probably never know.

NOTHING LASTS FOREVER

The assumption with ductwork is that once it's in place it will not be disturbed but this is usually not the case, particularly if the ductwork is above a dropped ceiling. There's always some reason to move those ceiling tiles – wiring for the alarm and sound systems, new lighting fixtures, pest control, or to adjust the dampers. In the process, the ducting gets bumped, shifted or tugged and the result is air leaks – small and large. If a restaurant has been around for seven or eight years, there is a very good chance that somewhere in that hidden zone, two of the duct sections have been pulled completely apart!

WHAT YOU CAN'T SEE - CAN HURT YOU!

Leaky ductwork drives up your energy bill in a couple of ways. Since it's winter, let's look at this from a heating point of view. First off, if heated air is leaking above the ceiling, less heat makes it to your customers. The thermostat senses that the room is not warm enough and the heater has to run longer causing you to purchase extra natural gas. Paying to heat the space above your ceiling is like buying extra food that you just throw away.

Have you ever tried to drink through a straw with a crack in it? You have to work a lot harder to get anything up that straw! That is the second effect of a duct-leak. The leak causes a pressure drop in the ductwork and the fans that move the air around, in an effort to compensate, end up working harder and burning up extra electricity. Once again, you are buying extra energy without getting any extra benefit.

THE FIX

Perhaps you are curious to know if there is a leak in your own ducting? A little visual sleuthing with a ladder and a flashlight will tell you if you have two sections pulled apart but to really find out how leaky your system is you'll need to call a professional. Skilled duct detectives will analyze your system and determine whether your pipes are airtight. There is even a high tech fix developed by Lawrence Berkeley Labs and licensed out to private industry that can seal your ducting with an aerosol spray. In some cases there are energy programs that will pick up part of the tab of duct diagnostics, so be sure to check with your contractor or local utility to see if you qualify. This energy leak may be hidden away but the savings from plugging the hole will be obvious on your energy bill!

Special thanks to Ed Rembecky for the background information on duct failure. Photo Courtesy of Vern Smith, Architectural Energy Corporation

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