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## **New Construction Guide – HVAC**

### **How to get a quality heating & cooling system.**

We install many heating & cooling systems during new home construction. We understand that price is very important, and we work hard to give consistently fair prices. But your comfort and overall costs (including repairs, utility costs, etc.) are just as important to you in the long run. Consider overall value in addition to the initial price. **To help ensure you get value and quality instead of poor work and cheap materials, we've created this simple guide.**

#### **What is important in a heating & cooling system?**

The bottom line is that you want to be comfortable. You want each room in your house to be the same temperature. You want a reliable system that won't let you down the first hot day or cold night. You want a system that will last longer than your builder's 1-year warranty. **Home is where you spend your time relaxing with your family. You want to be comfortable there.**

#### **What makes us different?**

- We install **metal 90 degree elbows** at all turns. Many contractors choose not to use the 90 degree elbows and just bend the flexible duct. This is bad because it causes kinks in the duct, which limit your air flow and cause temperature differences between rooms in your house. We also properly support and hang all flex duct, so no sags or kinks obstruct good air flow.
- We **seal each joint** in your duct system. Many contractors don't tape and seal all joints and taps. Unless you inspect the duct system yourself, and know what to look for, you usually won't catch this. But it will cause problems, such as moisture from condensation or mixing air from your crawl space or attic with the air entering your home. This causes loss of efficiency (which costs you money) and gives you poor air quality (which costs you comfort).
- We perform **load calculations** to properly size your unit, supply duct, and return duct. Many contractors will just guess at the sizes. This can lead to major problems, such as too little (or too much) heating or cooling. Too little will make your home too cold or too hot. But having too much wastes energy and causes humidity problems. A properly sized system is extremely important for maximum comfort and efficiency, longer system life, and a quieter system. (over -> )

- We use a **metal supply duct**. Many contractors use fiber duct board, which is a haven for dirt, moisture, and mold. It also doesn't stand up well to heat and moisture, and will often need to be replaced in as little as a year.
- We use a **minimum of 2 inches of insulation** on your duct system. Many contractors skimp on duct insulation. You normally won't see this, but ducts are a major culprit for heating and cooling loss. Under-insulated ducts will cost you a lot of money in electricity, and make your system work harder, shortening its life.
- We calculate the **proper size for your refrigerant lines**. Many contractors just guess at the size. Proper line size makes your system operate more efficiently and prolongs compressor life.
- We use **square to round fittings** to connect ducts (round piping) to the units (square fittings). Many contractors use the cheap "cap and tap" method which causes air restriction. Cheap fittings make your unit work harder, and cause uneven and noisy air flow.

Some (but not all) of these items are required by code, but not all contractors do them carefully. Doing installation right takes a little longer than just doing the minimum, and may cost a little more than taking shortcuts. It is also very common for many of these things to be overlooked during a home inspection. Don't rely totally on an inspector - **ask your contractor to put things in writing (like we do!)**.

At Conditioned Air Solutions are committed to giving you **value**. We want you to be comfortable, day-in and day-out, with the system we install. We hope this guide will help you be more informed as you choose your heating and cooling system, and who installs it.

**On the next page, we've provided a helpful "spec sheet" for you to use**, no matter who installs your system. It is completely generic and will help you get what you are paying for. Just give a copy to your vendor and make sure they do everything on it.

## New Construction HVAC Spec Sheet

Homeowner: \_\_\_\_\_

House Address: \_\_\_\_\_

I certify that the HVAC system will meet the following specs:

- Install metal 90 degree elbows – not flex duct - on all 90 degree turns.
- Seal each joint and tap in the duct system.
- Provide load calculations used to size the unit & supply duct & return duct.
- Use metal supply duct, not fiberboard.
- All ducts will have a minimum of 2 inches of insulation.
- Provide calculations for refrigerant line size.
- Use square to round fittings – not cap and tap.

HVAC Contractor Signature: \_\_\_\_\_