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# *New Home Construction:* **Why Independent Inspections are Important!**

We are often asked a very simple question, "Which home builder is the best?" The answer is not so simple. The brand name of the builder only tells us what the final product should be, not what the craftsmanship will be. What really makes a difference is the individual in charge of the construction process. This could be a project manager or superintendent. For the purpose of this article, we will call this person the superintendent. The superintendent is ultimately responsible for managing each subcontractor and verifying all work is completed to acceptable standards.

We like to use the following analogy to illustrate our philosophy to this question. Let's say we have three of the same desks from Ikea. We give them to three different people to put together. The end result will be three desks of differing

quality and craftsmanship. Now imagine the same scenario but on a much larger and way more complex scale or as it would relate to a new construction home. Thus, it's not the brand name that matters, it's the person managing the entire process.

When you purchase a new home, the first person you come into contact with is usually the sales person. You will pick your floor plan and options and negotiate the price. The work order for your home is given to the superintendent. His job is to schedule all subcontractors and manage material orders. This superintendent is usually managing the construction of more than 10 and sometimes even as many as 30 homes, at any given time. As construction begins, subcontractors will be brought in to complete the different systems of the home. In the

Houston area, a large majority of these workers are not skilled craftsmen or tradesmen and many do not speak English. The builder will usually have an inspector on their payroll that will come by with a checklist. This inspector may catch some items but will not usually catch all of them.

It is our job as a licensed, independent inspector to look over all the components of the home for deficiencies in systems and workmanship and to document it all properly. The builders should then correct the issues documented in the report.

New home construction or phased inspections are completed at the foundation, framing and final phases of construction.



**FOUNDATION PHASE**



**FRAMING PHASE**



**FINAL PHASE**

## FOUNDATION PHASE



Grade beam is curved. This should be straight.



Exposed post-tension cables.



Post-tension cable touching drain pipe.



Tears in plastic sheathing.

The foundation phase inspection is the quickest of the three phases. This inspection will take place prior to the concrete being placed. The purpose of the foundation inspection is to confirm the site looks as close to correct as possible. Once the concrete is placed, the internal components cannot be inspected.

Some of the items checked at the foundation phase inspection include:

- Grade beam layout is correct.
- Proper reinforcement steel (steel rebar and/or post-tension cables) have been utilized properly
- Confirm underground piping does not interfere with the grade beam layout

This inspection usually takes about an hour on-site to complete and a report with photos will be generated with all findings and deficiencies.

## FRAMING PHASE



Framing present is not sufficient to support ridge support strut.



Walls framed crooked. Yellow line is straight.



Over-boring of a structural member may cause a loss of structural integrity.



Touching ducts will produce condensation which may drip on the ceiling and cause water damage.



Gaps between structural members may cause excessive cracking and out of square doors during settling.

The framing phase inspection is completed before the installation of insulation and drywall. In our opinion, the framing phase inspection is the most important. This is the only time the entire structure of the home can be viewed as a whole. A pre-drywall or pre-cover meeting will usually be scheduled between you and your builder around this time as well.

At this time, the framers, electricians, roofers, plumbers, and HVAC installers should be complete and the home should be ready for insulation and drywall installation.

Some of the items checked at the framing phase inspection include:

- Deficiencies in framing or materials and components
- Rough installations of the electrical, plumbing, HVAC and mechanical systems

We frequently find homes that were framed properly but a plumber or electrician may have cut away excessive amounts of framing or over bored a structural member. These deficiencies need to be replaced or reinforced before the framing is covered with drywall.

Upon completion of the inspection, if you are able to attend, the inspector will identify and explain each deficiency. The framing phase inspection usually takes about an hour and a half for an average size home. A report with photos will be generated with all the findings and deficiencies.

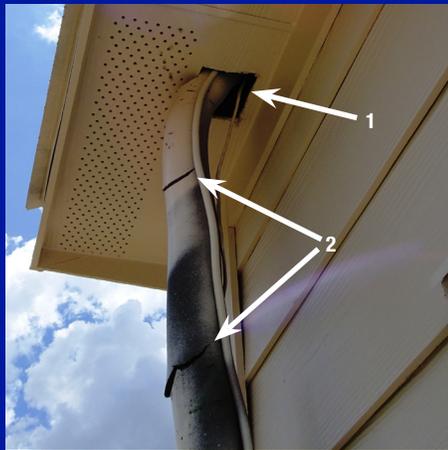
## FINAL PHASE



1. Lifted flashing
2. Uneven J-Flashing
3. Kick-out flashing needed



1. Window within 24" of a door must be tempered safety glass, this window is not.
2. Trim missing at top of door.



1. Unsealed penetration.
2. Air conditioner refrigerant line insulation damaged.



Ungrounded electrical outlet



Furnace vent supported with nylon strapping in lieu of required metal strapping resulting in fire hazard.

The final inspection is performed when the house is complete or "substantially complete." All components and systems should be completely installed and functioning with only minor cosmetic touch-ups pending completion. Most builders will schedule a final walk-through with you around this time. This usually takes place about 7-10 days before closing. If any component is incomplete, it cannot be inspected.

All components of the house are inspected for proper installation and function. Cosmetic defects are not typically included in the report. During your walk-through with the builder,

you will have the opportunity to point out the cosmetic defects that you identify. The primary focus of the final inspection is to determine and document any deficiencies within the structural, mechanical, electrical, and plumbing systems of the house.

In addition to the inspection, we will also scan the house with an infrared camera (thermal imaging). The infrared scan will show the inspector possible areas of missing insulation, moisture, overheating electrical components and other thermal deficiencies (such as temperature variations of the ducts and vents).

A few of the common deficiencies found in new construction include:

- Air conditioning systems not operating properly
- Improper balance of the air-conditioning duct system
- Missing wall and ceiling insulation
- Plumbing leaks
- Improperly wired outlets and switches
- Inoperative electrical components
- Improperly sized breakers within the electrical panel
- Improper drainage around the exterior of the home
- Out of square doors

## DEFICIENCIES CAPTURED WITH INFRARED



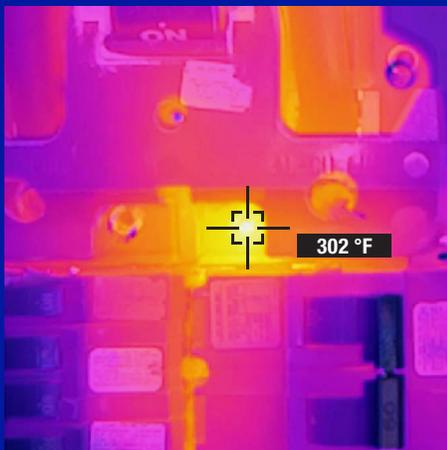
Internal components overheating inside outlet



Wet ceiling from roof leak



Missing insulation



Overheated electrical panel



Water leaking in wall from drain leak on second level



Missing insulation

The final inspection includes but is not limited to:

- Foundations
- Roof and roof structure
- Attic framing, insulation and ventilation
- Ceilings and floors
- Wall and ceiling insulation
- Interior and exterior walls
- Doors and windows
- Electrical panels and breakers
- Branch circuits (outlets, switches and fixtures)
- Cooling and heating systems
- Plumbing and fixtures
- Drains
- Built-in appliances
- Water heaters
- Lot grading and drainage
- Sprinkler systems
- Swimming pools
- Outdoor cooking equipment
- Full infrared scan

Upon completion of the inspection, you are encouraged to attend a walk-through with the inspector. The inspector will identify and explain each deficiency and answer any questions you may have. The final phase inspection will take approximately 2½ to 4½ hours to complete. A report with photos will be generated with all findings and deficiencies.

Sample inspection reports for each phase are available on our website:

<http://imageinspections.com/sample-inspection-report.html>

It is important to remember that each home is built differently and no two are the same. The builder's superintendent must be able to properly communicate with their workmen. The independent inspector does not have the authority to make a builder correct any deficiency. The inspector's purpose is to document

all findings and deficiencies. Should the builder choose not to correct a deficiency, he should be able to provide a valid explanation why. If for any reason, deficiencies on the report are not corrected, your report will act as documentation of the deficiency should an issue arise later. Our inspectors

are available to speak with the builder, if needed. There is a big difference between "ideal solutions" and "practical solutions" when it comes to new home construction. We can work with the builder to determine the best practical solution if the ideal solution cannot be performed.

*Our inspectors are always available to answer any questions that you may have about your home.*

