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To: Member Input <memberinput@iccsafe.org>
Subject: Energy code

Hello.

There is no doubt that there needs to be much more common sense improvements to the building codes and in this specific discussion, the energy code.

For example:
In most architectural drawings, there is no consideration as to how the mechanicals are to be installed in the structure. It is left to the sub-contractors to "figure out" without damaging the structure.
We all know or should know that it is most efficient for ductwork to be in the envelope of the home but there are no plans for that so ducts get run up outside walls or worse whole systems get put in unconditioned attics or crawl spaces.
Many code inspectors are requiring the ductwork in attics to be above all insulation so there is a huge energy loss before heat or cooling is delivered to the living space.
Duct testing should be required and enforced. This will prevent losses.
If ducts are in attics, they should be tested and then buried under the insulation to limit heat transfer from the ducts and the attic space. I have measured air conditioned air leaving attic air handlers at 50° and arriving at registers at 65°. Yes with R8 ductwork. Attic was 140°. Terrible waste of energy.
There is no excuse for this except for poor or no planning from the designer of the home, and no requirements for better planning from codes.

Another place for improvement is air exchange requirements.
In today's tighter homes, it is necessary to exchange poor quality inside air for better quality outside air.
Current requirements allow for a bathroom exhaust fan to be wired to run for a certain amount of time per day. That is it. This is a terrible code.
The exhaust fan puts a negative pressure on the envelope of the home. How is the outside air supposed to get into the home, through leaks in the envelope.
The incoming air is dirty and unconditioned.
The temperature and humidity of this incoming air will need to be "adjusted" which requires energy to accomplish.
Radon levels are increased in the home due to the negative pressure on the envelope.
An ERV solves all of these issues and should be required. Remove the exhaust fan idea from the codes, it is harmful, not helpful.

My suggestions.

1. Architects and engineers should be required to design space within the envelope of the home or structure for mechanicals, especially ductwork for HVAC, since conditioning the home is the largest consumer of energy.
2. Keep ductwork from exterior walls, it limits insulation in the wall and allows for heat transfer through the wall. This again, requires proper home design to accomplish.
3. If ductwork is to be allowed in attic spaces, it must duct tested prior to attic insulation and then buried under the insulation. The HVAC equipment itself would never be allowed in the attic.

4. Exhaust fans for bathrooms would all go through an ERV so whenever air exchange is needed or bath exhaust is needed, fresh air would replace the exhausted air. The fresh air will be filtered and the energy in the exhausted air would be transferred to the incoming air.
5. All lighting should be LED.
6. All furnaces should be 90% efficient or more.
7. Heat pumps and AC units should be a minimum of 15 SEER.

Best Regards
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