



CEILING INSULATION MEMO

SMI will no longer install ceiling insulation in Capes with 2nd floor living space as a standard. Builder/Customer will be required to determine the option they prefer for their particular project.

Available Options:

- 1st floor ceiling insulation of R-11 to R19 for sound buffer
- R-30 or R38 insulation for 2nd floor envelope

This option will include insulation for collar ties and from collar tie to eave. Build-downs will be sent to match insulation depth and R-21 supplied for gable end walls. Please see the attached for details of the suggested method of installation.

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ALSO ATTACHED IS INFORMATION REGARDING MOISTURE-RELATED ISSUES THAT ARE VERY IMPORTANT TO DISCUSS WITH EACH CUSTOMER.

RE: HIGH MOISTURE CONTENT

TO: SMI BUILDING PARTNERS

DATE: 3/27/2012

Structural Modulars, Inc. (SMI) would like to bring to your attention a few building practices that have been acceptable in the past but are in need of change.

Currently, SMI constructs their homes in accordance with the International Residential Code and the International Energy Conservation Code. As you being the process of designing your customer's new home, they need to be informed of several issues that arise due to the use of these better building practices.

In the past, it has been widely accepted that a customer building a Cape Cod home would finish the upper floor at their convenience or need. It was a good way for people to build "sweat equity" into their home as their family grew. We have identified a few issues since implementing better building methods and products. We recommend that when you are selling a Cape Cod style home, that you finish the upstairs to the "taped" drywall stage if completion to thwart problems with warm, moist air migrating towards a non-insulated improperly ventilated area within the building envelope. Our recommended method for insulating and ventilating the upstairs area is shown in the attached drawing. By insulating our cape models in this manner, we also accomplish a second benefit. All ductwork and air venting are now in conditioned airspace. This should make the building inspectors happy and reduce the chances of moisture condensing in the bath and stove venting. A cape "close off" package is not an acceptable solution.

The same moisture related problems could possibly arise in a decked attic storage situation. It is very possible that warm moist air can migrate into the attic area and condense on cold surfaces. A common situation would be with the air leakage through recessed lighting. It seems that any miniscule air leakage could condense under the decking regardless of proper attic insulation and ventilation. We are currently looking at different decking options, but unfortunately, the products that would work are quite costly.

Each day, we saturate the air with excess water vapor from cooking, showering, and clothes drying. The location of the home in shaded areas with high moisture content in the surrounding soil can contribute to excess moisture in the home. Another concern is the concrete floor in the basement which may take weeks to cure. One way to efficiently exchange the air in a home is to install a whole house ventilation system. One type of system is a Heat Recovery Ventilator or HRV. This type of mechanical ventilation is a cost-effective way of reclaiming the conditioned air temperatures from the exhaust outflow. This happens when the stale conditioned indoor air passes over a transfer core in the unit, exchanging the warm or cool air with fresh incoming air. During this process, the HRV is helping to reduce carbon monoxide levels, humidity, odors, mold, spores, dust, radon, and pollen that would otherwise be trapped inside the home. These concerns should be discussed with the homeowner before the sales is finalized.

As a reminder, it is imperative that proper sealing be done between units. We recommend using foam or suitable caulking to seal between units at the floor level, i.e. in the basement around each door or room opening, and on all seams on the outside marriage wall. Doing this will help prevent drafts, and also prevent the gap in the marriage wall from becoming a chimney and drawing warm, moist air into the attic area.

You may wish to inform your customer about the potential pitfalls that may arise if proper ventilation and humidity levels are not controlled. While SMI feels this information is important to the homeowner, SMI cannot guarantee results or assume any liability for improper site completion. It is recommended that a proper plan to address these issues be discussed with your HVAC contractor or other experts in this field. Proper planning may reduce future problems.