

*Manufactured Building*

*Wayne Goodwin | Commissioner of Insurance*

*Tim Bradley | Assistant State Fire Marshal*

**MEMORANDUM**

DATE: August 10, 2012 (Updates July 15, 2009)

TO: Building Inspectors, Zoning Officers and other Interested Parties

FROM: Alan D. Greene, P.E.  
Chief Building Code Consultant  
Manufactured Building Division

SUBJECT: **MODULAR HOMES WITH STEEL FRAMES**

It is acceptable under the North Carolina State Building Code and therefore acceptable to the Department of Insurance for a modular home to be constructed with a steel and wood floor framing system similar to and in many cases identical to a HUD approved manufactured home chassis. A modular home with this type of steel and wood floor framing system is commonly called an “on-frame” modular. Modular homes which have a floor system framed entirely of wood, as in a conventional site-built home, are commonly called “off-frame” modulares. In our approval process, both the “off-frame” and “on-frame” modulares are considered to be simply two different methods of framing a floor system. Both systems must be designed to meet the loading requirements of the North Carolina State Building Code. The “on-frame” method of constructing a floor system utilizes structural steel girders as support for the floor joists, while the conventional “off-frame” method typically has the joists supported by built-up wood girders and the exterior foundation walls. The Building Code does not prohibit structural steel members from being used when constructing either a site-built home or an “on-frame” modular home. The fact that the structural steel framing system in an “on-frame” modular is also used as the transportation system to move the home from factory to job site is an indication of the strength of the floor framing system. In other words, in addition to supporting the floor, the steel framework must be capable of withstanding transportation loads caused by travel over the highway. The North Carolina State Building Code does not prohibit use of the steel floor framing system to transport the home so long as the system is not structurally damaged during transit. When installed on site, all modular homes are required to be placed on a Code complying foundation system.

In summary, factory built modular homes, either with or without the steel floor framing system, meet the requirements of the North Carolina Residential Code edition in force at the time the home is manufactured.

cc: C. Patrick Walker, P.E. – Technical Services Manager  
Joseph H. Sadler, Jr., P.E. -- Deputy Director