



Manufactured Building

*Wayne Goodwin, Commissioner of Insurance
Rick McIntyre, Assistant State Fire Marshal*

MEMORANDUM

DATE: May 30, 2014 (updates April 26, 2012 memo)

TO: North Carolina Approved Third Party Agencies, Modular Manufacturers, and other interested parties

FROM: Joseph H. Sadler, Jr., P.E.
Deputy Director
Manufactured Building Division

SUBJECT: Rodentproofing in Modular Homes and Buildings

We have received some complaints from several local inspection departments regarding the rodentproofing of modular buildings. In many cases, there are openings around the plumbing pipes and mechanical ducts that pass through the floor and/or wall assemblies. This is especially true for tub and shower p-traps. These areas are required to be closed and protected from rodents entering the home or building. Insulation, bottom board material or other material that can be removed or destroyed by rodents are not approved or acceptable rodentproofing materials. Openings shall be closed and protected using approved metal collars or other approved materials that are securely fastened to the adjoining structure as stated by **Section 304.4** in the **2012 North Carolina Plumbing Code**:

304.4 Openings for pipes. In or on structures where openings have been made in walls, floors or ceilings for the passage of pipes, such openings shall be closed and protected by the installation of approved metal collars or other approved materials that are securely fastened to the adjoining structure.

Section 301.14 in the **2012 North Carolina Mechanical Code** and in the **2012 North Carolina Fuel Gas Code** states:

301.14 Rodent proofing. Buildings or structures and the walls enclosing habitable or occupiable rooms and spaces in which persons live, sleep or work, or in which feed, food or foodstuffs are stored, prepared, processed, served or sold, shall be constructed to protect against the entrance of rodents in accordance with the International Building Code.

Rodentproofing is required at all openings in walls, floors or ceilings for pipes, electrical cables, conduits, or other openings are present. Please be aware, it has been interpreted that OSB is not an acceptable material for rodentproofing the openings.

Examples of other acceptable materials for rodentproofing are:

Concrete: reinforced — minimum thickness of 2 inches; not reinforced — 3 ¾ inches.
Galvanized sheet metal: 24 gauge or heavier. Perforated sheet metal grills should be 14 gauge.
Brick: 3 ¾-inches thick with mortar-filled joints
Hardware cloth (wire mesh): 19 gauge, 1/2 x 1/2-inch mesh to exclude rats; 24 gauge, 1/4 x 1/4-inch mesh to exclude mice.
Aluminum: 22 gauge for frames and flashing; 20 gauge for kick plates; 18 gauge for guards.

The sections listed above shall not preclude the following provisions:

1. Fireblocking requirements (**Sections R302.11, R302.11.1, R302.11.1.1, R302.11.1.3, R302.11.1.3, R302.11.2, R502.13, & R602.8**) and draftstopping requirements (**Sections R302.12, R302.12.1, & R502.12**) for one and two family dwellings in the **2012 North Carolina Residential Code**.
2. Fireblocking and draftstopping requirements for commercial buildings (**Section 717.1** through **Section 717.5**) in the **2012 North Carolina Building Code**.
3. The requirements of the **2012 North Carolina Energy Conservation Code**.

In order to prevent future conflicts between local building departments, dealers, contractors and manufacturers, the **rodentproofing must be completed in the manufacturer's facility or the manufacturer must insert a note on the plans clearly indicating the areas that must be closed and/or protected by others in the field along with instructions describing the methods for such closures**. This directive is effective immediately and should be reflected in future construction and plans. Thank you for your immediate attention to this matter. The Third Party inspectors are responsible for ensuring the rodentproofing is installed as required.

cc: C. Patrick Walker, P.E. - Technical Services Manager
Alan D. Greene, P.E. - Chief Building Code Consultant
Michael J. Hamm, P.E. - Building Code Consultant
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