This rule replaces the State of Alabama Department of Insurance, Fire Marshal Division, Regulations for the Manufacture and Installation of Ground Anchors and Blocking of Mobile Homes Act #1144, Regular Session 1975 effective January 1, 1976, under which the Alabama Manufactured Housing Commission has been operating by virtue of Alabama Code 24-6-4(a)(1985).

**535-X-13-.01 Purpose.** The provisions of these Rules and Regulations are adopted for the implementation of Act No. 91-642 of the 1991 regular legislative session and are intended to provide uniform safety standards for the anchoring and blocking of manufactured homes and manufactured buildings. To further provide for the uniform standards for the manufacture of ground anchors and tiedown devices. Provide for the health, safety, and welfare of people who utilize manufactured homes and buildings for their personal residences and providing safety for other adjacent properties.

**Author:** Jim Sloan
Chapter 535-X-13  Manufactured Housing


535-X-13-.02 Definitions. When used in this Regulation, the following words and phrases shall have the meanings respectively ascribed to them in this section:

(1) Ground Anchor - any device at the manufactured home or manufactured building site designed for the purpose of securing a manufactured home or manufactured building to the ground.

(2) Stabilizer Plate - a device used to prevent horizontal movement of a ground anchor.

(3) Tiedown - means any device designed to anchor a manufactured home or manufactured building to ground anchors.

(4) Pier - that portion of the support system between the top of the footing and the bottom of the pier cap.

(5) Vertical Anchor Tie - an anchor tie designed primarily to resist overturning by applying a force to the home or building in a direction no more than 15 degrees from the vertical.

(6) Diagonal Anchor Tie - an anchor tie designed primarily to resist sliding horizontally.

(7) Roof Protector - a device designed to prevent over-the-roof tiedowns from damaging or penetrating the roof material.

(8) Pier Footing or Foundation - the structural support pad that a pier is placed upon.

(9) Pier cap - a concrete or wood plate placed on top of the highest open cell block of the pier.

(10) Install or Installation - siting, placing or anchoring a manufactured home or manufactured building, either one or more units, to land, upon footings, piers or foundations, or connecting the home or building to public or private utilities. Public or private utilities shall not be classified as installers under this section.
(11) Installer - any person who sites, anchors, places, connects, sets up or installs a manufactured home or manufactured building upon land, footings, piers or foundations.

(12) Manufactured Building - a closed structure, building assembly or systems of subassemblies which may include structural, electrical, plumbing, heating, ventilating, utility service lines, footings, foundations, porches or other service systems manufactured in manufacturing facilities, for installation or erection, with or without other specified components, as a finished building or as a part of a finished building, which shall include, but not be limited to, residential dwelling units, commercial, institutional, storage and industrial structures. Mobile homes or manufactured homes are excluded. Manufactured building may also mean at the option of the manufacturer, any building of open construction made or assembled in manufacturing facilities away from the building site, for installation, or assembly and installation on the building site.

(13) Manufactured Home - as defined by the United States Department of Housing and Urban Development.

(14) ANSI - The American National Standards Institute or its successor.

(15) NFPA - The National Fire Protection Association or its successor.


(17) Hurricane Zone - an area of Alabama that has encountered sustained winds of 100 mph or more. Mobile and Baldwin counties are designated as such zones.

(18) Site - an area of land that a manufactured home or manufactured building is installed upon. It is defined as the area under the home to include a 5 ft. perimeter around the home.

(19) Approved - all devices that have been tested according to the ANSI standards and requirements, and are capable of withstanding and resisting all such loads without failure as required by the ANSI standard for the testing of ground anchors and tiedown devices. Approved shall also mean all systems and devices meeting the Department of Housing and Urban Development's standards and/or the American Society of Testing of Materials standards for ground anchors and tiedown devices.
(20) Anchoring System - A combination of ties, anchoring equipment, and ground anchors that will, when properly designed and installed, resist the overturning or sideways movement of the home caused by wind.

Author: Jim Sloan


535-X-13-.03 Data Plate And Label Requirements.

(1) Each section of each home manufactured under the Federal Manufactured Home Construction and Safety Standards shall contain a label issued by the inspection agency. The label indicates that the home meets the applicable standards (FMHCSS) and that the construction process has been monitored by a third-party inspection agency. A shipment/inspection fee may be required for each section of each new manufactured home or manufactured building shipped to a retailer in Alabama; a fee may be required for each section of each manufactured home or manufactured building sold, leased or leased to purchase. This fee would be due monthly for the previous month’s transactions.

(2) Each manufactured building (modular) manufactured under the Alabama Manufactured Buildings Act shall contain an insignia issued by the Alabama Manufactured Housing Commission (AMHC). This insignia indicates the manufacturer has met all applicable codes and standards required by the Commission. This insignia is required to be located on the inside door of the electrical panel.

(3) Each manufactured home and manufactured building is required to bear a data plate affixed in a permanent manner near the electrical panel or other readily accessible and visible location. The data plate shall contain information, including the name of the manufacturer, design-approval agency, factory installed equipment, and the wind, roof load, and thermal zones for which the unit was constructed. The installer or other authorized inspection personnel shall ensure that the home or building is not located in a zone that exceeds the design limitations for which the unit was constructed.

(4) No manufactured home constructed on or after June 15, 1976, may be installed within the State of Alabama
unless it contains the HUD label and a data plate (see paragraphs 1 and 3 above). No manufactured building may be installed in Alabama unless it contains an AMHC insignia and a data plate (see paragraphs 2 and 3 above).

Author: Jim Sloan


535-X-13-.04 Site Preparation. The site shall have a grade that will provide water to drainage away from the home site. The site shall be properly crowned and sloped so that water will not stand under the home or run under the home. This will not be necessary if the existing site will not allow water to stand under the home or run under the home. The party to pay the cost of and do the site preparation work shall be determined by a written contractual agreement between the retailer and the landowner/homeowner, or the installer and the landowner/homeowner, except when the site is located within a park. Park owners are responsible for site preparation in a park. The responsibility to ensure that site preparation is done properly will be a shared responsibility of both the retailer and the installer of manufactured homes sold by the retailer except when the site is located within a park; then the park owner shall be responsible. The installer must notify the park owner of his/her responsibility. Site preparation for all secondary sitings not involving a retailer and not installed in a park shall be the responsibility of the installer. After corrections have been made as described in the initial Set-up Inspection Report and confirmed by the Inspector, the Commission shall consider site preparation to be correct. A retailer, installer, or park owner may request a pre-delivery site inspection from the Commission to determine the suitability of the site. A written site inspection report shall be provided. The Commission may charge a fee for this service.

Author: Jim Sloan


535-X-13-.05 Soil Classification. The Commission hereby adopts the following soil classifications for the purpose of determining design loads, specifications and holding power of anchors and tiedown devices.

<table>
<thead>
<tr>
<th>SOIL CLASS</th>
<th>TYPES OF SOILS</th>
<th>TEST BLOW PROBE (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Sound hard rock</td>
<td>BLOW COUNT (ASTM)</td>
</tr>
<tr>
<td>I-1</td>
<td>Very dense and/or cemented..</td>
<td>NA</td>
</tr>
<tr>
<td>II</td>
<td>Sands, coarse gravel and cobbles, preloaded silts,</td>
<td>PROBE VALUE (2)</td>
</tr>
<tr>
<td>II-1</td>
<td>and corals...</td>
<td>NA</td>
</tr>
<tr>
<td>III</td>
<td>Medium-dense coarse, sands, sandy gravels, very</td>
<td>350-549</td>
</tr>
<tr>
<td>III-1</td>
<td>stiff silts and clays...</td>
<td>40-up</td>
</tr>
<tr>
<td>IV</td>
<td>Loose to medium dense sands, firm to stiff clays and</td>
<td></td>
</tr>
<tr>
<td>IV-1</td>
<td>silts, alluvian fill...</td>
<td>200-349</td>
</tr>
<tr>
<td>V</td>
<td>Peat, organic silt, inundated silts, loose</td>
<td>14-23</td>
</tr>
<tr>
<td>V-1</td>
<td>fine sand, alluvium, loess, varied clays, fill, fly</td>
<td>0-14</td>
</tr>
<tr>
<td></td>
<td>ash...</td>
<td>0-200</td>
</tr>
</tbody>
</table>

(1) The test probe is a device for measuring the torque of soils to assist in evaluating the holding capability of the soils in which the anchor is placed. The test probe has a helix on it. The overall length of the helical section is 10.75 in.; the major diameter is 1.25 in.; the minor diameter is 0.81 in.; the pitch is 1.75 in. The shaft must be of suitable length for anchor depth.

(2) A measure synonymous with moment of a force when distributed around the shaft of the test probe.

(3) Below these values a registered professional engineer should be consulted.

(4) A C4 or C5 anchors that has been approved by the Commission must be used unless the soil is tested with a soil test probe or another Commission approved method.

Author: Jim Sloan

535-X-13-.06 Minimum Blocking Standards.

(1) Pier foundations shall be installed directly under the main frame of the home or building. The piers shall not be further apart than six (6) feet on center when using a minimum pier foundation of a 16" x 16" x 4" concrete pad or equivalent in the minimum soil bearing capacity of 2000 lbs. PSF. Piers shall be no more than two feet from each end of the frame.

(2) The minimum pier foundation shall be a 16" X 16" X 4" concrete pad, precast or poured in place concrete slab. All grass and organic material must be removed and the pier foundation placed on stable soil. The minimum soil bearing capacity for the minimum pier foundation is 2000 lbs. If the actual soil’s bearing capacity is greater than 2000 lbs., an assumed value of 2,000 lbs. must be used to determine pier spacing. In a soil bearing capacity below these values, the pier foundations must be increased in size according to the bearing load and the soil bearing capacity of the soil. Two (2) 8" X 16" X 4" concrete pads are considered minimum. All debris, grass, grass sod and other foreign material that would be under the footers must be removed before footings or pier foundations are installed. Pier footing must not be placed on a mound. If the space under the home is to be enclosed with skirting or other material, the skirting shall be vented, and a ground vapor retarder of 6 mil rated polyethylene sheeting or equivalent should be installed. Venting shall be provided for the crawl space at the minimum required by the latest publication of NCSBCS/ANSI A225.1. The vapor barrier should cover the entire area under the home and overlap at least 12 inches at all joints. All decayable material, such as grass, roots, twigs, and wood scraps shall be removed from beneath the home.

(3) Piers may be manufactured load-bearing supports or devices and must be approved for the loads and use intended, or piers shall be constructed of regular 8" X 8" X 16" concrete blocks, with open cells in a vertical position when placed upon the pier foundation. A 2" x 8" X 16" treated wood or hardwood plate or a concrete cap shall be placed on top of the pier to serve as a pier cap. A true 1” thick hardwood plate is optional. All piers must have a full size cap covering the pier.
Additional full size plates not less than (1" X 8" X 16") may be used; but, the additional plates shall not exceed 4" in total height. The frame may be cushioned with treated wood, hardwood, or other Commission approved shims (wedges) and the shims shall not occupy more than 1" of vertical space between the top plate and main frame. One shim at least 4" x 6" nominal is to be placed on each side of the main frame on single tiered piers. Two shims are to be placed on each side of the main frame on double tiered piers. Shims must be used in pairs and driven tight. Concrete block piers are to be placed perpendicular to the main I beam or frame.

(4) All piers over 32" (over four 8" x 8" x 16” concrete blocks) in height shall be double tiered with the blocks interlocked.

(5) A minimum of 12" clearance shall be maintained from beneath the main frame or I beam to the top of the soil's surface.

(6) The maximum pier height shall be no more than 60 inches unless designed and approved by a registered engineer or a higher height/different design is required by the National Flood Insurance Program (NFIP) floodplain management criteria.

(7) Exterior sidewall/marriage wall blocking - In addition to providing piers for supporting the frame, piers are also required to support the special roof loads. The support piers are required at all marriage wall and sidewall openings 48" and greater in width. These piers are to be placed at each side of each opening. The most commonly occurring openings are sliding glass doors and full bay windows. Typical marriage wall openings are cathedral openings and passageway openings which are 48" and larger. Recessed walls are considered sidewall openings. Each ridge beam column shall be supported by piers under the marriage wall. Piers shall be placed under heavy loads such as masonry-faced fireplaces, etc. Marriage walls shall have piers at each end of the home. Exterior door openings shall have piers or an approved support device on each side.

(8) Marriage wall piers shall be constructed to the same requirements as all other pier requirements.

(9) Perimeter pier foundations are required to be 8" X 16" X 4" concrete pads. Perimeter piers shall be single tiered and placed parallel to the sidewall.

(10) To assure that the manufacturer's warranty remains valid, all new homes and buildings must be blocked according to the manufacturer's installation manual.
(11) All new manufactured homes or manufactured buildings shall be installed in accordance with the manufacturer’s installation instructions. Effective October 20, 2008, the Manufacturer’s Installation Instructions must meet or exceed the minimum requirements of the HUD Model Manufactured Home Installation Standards. Manufacturers may provide training to the installers of their homes to include lagging, sealing, and complete trim out. Paragraphs 1-9 shall apply to all used homes and buildings when the manufacturer’s installation instructions are not available. It is the installer's responsibility to ascertain for himself which homes may be installed according to the State's minimum blocking standards.

Author: Jim Sloan


535-X-13-.07 Minimum Anchoring Standards.

(1) No anchors shall be used for anchoring a manufactured home or building to the ground unless the anchor has been tested by a third party testing agency to the required holding power of the anchors. All anchors tested must then have the approval of the Commission. All ground anchors must be installed in the soil classification in which the anchor has been approved. It is the responsibility of the installer to ascertain the soil class and to make sure the anchor is installed in the correct soil. All shear wall locations must have an anchor and support pier installed. Manufactured required longitudinal ties must be installed.

(2) All manufactured homes and buildings shall have anchors spaced as evenly as practical with the piers.
(3) The required number of anchors per each side of each manufactured home and building are shown below:

<table>
<thead>
<tr>
<th>WIND ZONE II</th>
<th>WIND ZONE I</th>
</tr>
</thead>
<tbody>
<tr>
<td>HURRICANE ZONE</td>
<td>NON-HURRICANE ZONE</td>
</tr>
<tr>
<td><strong>Length of Mobile Home (ft)</strong></td>
<td><strong>No. of Vertical Ties</strong></td>
</tr>
<tr>
<td>0 - 40</td>
<td>5</td>
</tr>
<tr>
<td>41 - 60</td>
<td>7</td>
</tr>
<tr>
<td>61 - 90</td>
<td>9</td>
</tr>
</tbody>
</table>

*Length of mobile home (as used in this table) means length excluding draw bar.

**The federal manufactured home construction and safety standards require all manufactured homes designed to be located in wind zones II and III to have a vertical tie installed at each diagonal tie location.

***If pier height is over 24”, an additional diagonal tie must be added for every additional 12” or a portion thereof.

****Manufactured homes that do not have a HUD label must have three (3) vertical ties per side in zone 1.

(4) Manufactured homes (with HUD labels) and manufactured buildings are not required to have vertical ties in wind zone 1.

(5) All multi section homes shall be lagged and sealed together in accordance with the home manufacturer’s instructions.

(6) A zone 1 home cannot be installed in zone 2.

(7) An optional anchoring system that has been approved by the Commission in accordance with 535-X-13-.09 may be used if its use does not conflict with 535-X-13-.06(11).

(8) These minimum anchoring standards are based on the premise that all manufacturers doing business in Alabama have built their homes in compliance with the federal manufactured home construction and safety standards.

Author: Jim Sloan
535-X-13-.08 Installation Of Anchors And Tiedown Devices.

(1) Anchor must be approved for its intended use.

(2) Anchor must be installed in the soil class in which it was tested and approved.

(3) Anchor must be installed to full depth with the bottom of the anchor head within one (1) inch of the soil's surface.

(4) No more than one tiedown shall be attached to any one anchor unless the anchor is approved and capable of resisting the combined loads placed upon that anchor.

(5) All anchors shall be installed in a vertical position or with the anchor rod in direct alignment with the force of the loading.

(6) All anchors installed in a vertical position for a diagonal pull shall have a stabilizer plate, concrete collar, or other approved stabilizer device installed to resist horizontal movement. The stabilizer plate must be installed in a vertical position to the full depth of the plate with the plate head flush with the soil's surface. If concrete collar is used, it must be 10" in diameter by 18" deep.

(7) All tiedown straps and devices must be attached to the manufactured home or building in accordance with the manufacturer's instructions for such straps and devices. All tiedown straps and devices must be tested and approved. Straps must be type 1, finished B, grade 1 steel strapping, 1 1/4" wide and 0.035" thick conforming with Federal Specification strapping steel and seals FS QQ-S-781H-1974.

(8) Straps shall not be kinked or bent or otherwise abnormally stressed when installed.

(9) A metal roof protector must be used with over the roof tiedowns.

(10) Rock anchors can only be used in solid rock.

Author: Jim Sloan
535-X-13-.09 Standards For The Manufacture Of Anchor And Tiedown Devices.

(1) All manufacturers of ground anchors and tiedown devices must have the approval of their products by the Alabama Manufactured Housing Commission before offering their products for sale and use within the State of Alabama.

(2) All anchors and tiedown devices used in the State of Alabama for the purpose of anchoring a manufactured home or building to the ground must be tested by a third party independent testing agency, recognized by the Commission as having the technical background and experience in testing ground anchors and tiedown devices. The third party agency cannot have any interest or ties with the manufacturer which the agency is testing. There can be no conflict of interest between the agency and the manufacturer.

(3) All anchors and tiedown devices shall be tested to a minimum of 4,725 lbs. The combined vertical displacement attributed to the elongation of the anchor and withdrawal from the substrate shall not exceed 2" at an applied load of 4,725 lbs. Anchors tested with loads applied at an angle to the anchor shaft shall not displace the anchor more than 3" horizontally at an applied load of 4,725 lbs.

(4) Anchors designed for connection of multiple ties must be capable of resisting the combined loads placed upon such anchors. The displacement cannot exceed 2" vertically and 3" horizontally.

(5) All tiedown devices shall be tested with the same loads as the ground anchors. Failure of the tiedown devices and ground anchors shall be considered as breakage, bending or slippage that results in excessive yielding at 2" vertically and 3" horizontally at an applied load of 4,725 lbs. or with combined loads.

(6) A complete product description shall be provided for each anchor and each tiedown device tested and submitted for approval. The information shall include the following:
(a) Manufacturer and model identification: Each model shall show model identification and shall be permanently marked indicating the conditions under which such anchor or device has been approved. For traceability, the identification marks of all anchors, components, straps, and devices used for anchoring and tying down manufactured homes must be visible after the anchor or device is installed.

(b) Detailed drawings including all dimensions (i.e. shaft, flute, head, etc.)

(c) Grade of steel or complete description of material used for anchor.

(d) Methods of securing tiedown device to the anchor.

(e) Methods of securing device to home including all buckles, crimps and bolts required.

(f) Method of installing anchor in ground.

(g) Special requirements for protecting the anchor against frost heave where applicable.

(h) A written detailed description of the quality assurance program and its procedures. The program shall include areas of material compliance and dimensional adherence to the engineered drawings, traceability of incoming raw materials, control of manufacturing methods, random and individual inspection of finished goods, and periodic testing to assure 95-98 percent compliance to program standards. Periodic test results are to be filed with the Commission office.

(i) Drawings shall bear the seal of a registered engineer (structural-mechanical) registered in the state of manufacture or the State of Alabama.

(j) Each model must be field tested and certified for holding power in the bottom half of the soil classifications adopted by the Commission. All tests must be conducted with representatives of the Alabama Manufactured Housing Commission present when the tests are performed.

(7) Any change from the engineered drawings (metal size, welding alterations, coatings, etc.) as well as significant changes in the quality assurance program will nullify the approval.
(8) A test report is required to accompany each anchor or tiedown device submitted for approval and shall be sufficiently detailed so that the test can be replicated without a requirement for additional information. The test report shall include the following:

(a) Description of anchor and tiedown devices and components used in the test (i.e. buckles, hooks, bolts, crimps, straps and etc.)

(b) Date of tests.

(c) Description or classification of soil type in which anchor was tested. Tests must be conducted for all soil types within the State of Alabama.

(d) Location of tests.

(e) Embedment depth of the anchor.

(f) Minimum distance that ground anchors shall be separated so that the capacity of the anchors will not be reduced.

(g) The application and orientation of the applied load on the anchor.

(h) The report shall detail the applied load at 10 second intervals and 500 lb. increments. The test report shall identify the vertical and horizontal displacements at each increment and describe the mode and location of failure.

(9) All test procedures should conform to the applicable ASTM Standards:

Author: Jim Sloan
535-X-13-.11 **Inspections.**

(1) Any duly authorized representative of the Commission may make inspections at any reasonable time for the purpose of ascertaining if the requirements of this regulation are being met.

(2) For new residential manufactured buildings (modulars), the retailer shall notify the Alabama Manufactured Housing Commission in writing by fax or e-mail of the exact location where the home is to be installed (a) within 72 hours of starting to pour the foundation and (b) within 72 hours of final site delivery.

(3) The retailer shall notify the Alabama Manufactured Housing Commission in writing by e-mail or fax of the exact location where and when manufactured homes or manufactured buildings are to be installed within 72 hours after final site delivery.

(4) Certified installers or anyone else who pull and drop a home or building for final site delivery/installation within the State of Alabama shall notify the Commission of the exact location where the home or building was dropped by e-mail, fax, or priority mail within 72 hours of arrival at an installation site in Alabama.

(5) For secondary sitings not involving a retailer, installers shall notify the Commission of the exact location of homes or buildings they install within 72 hours after starting the installation by e-mail, fax, or priority mail.

(6) Manufactured homes or manufactured buildings shall not be skirted until a Commission inspector has inspected the setup. Effective May 1, 2006, multi-section residential units/homes shall not be trimmed out until a Commission inspector has inspected the marriage line from the inside of the home and from the outside of the home. A copy of the Set-up Inspection Report will be sent to the retailer and installer.

(7) If the Commission has not inspected the home or building within ten days after notification, it may be skirted.
(8) The AMHC property locator form must be used to report site locations and may be obtained from the Commission or from the AMHC website.

Author: Jim Sloan


535-x-13-.12 Penalties And Appeals.

(a) It is a misdemeanor for any person to install, allow to be installed, occupy, or allow to be occupied, any manufactured home or manufactured building in this state which is not in accordance with the uniform standards and the rules and regulations adopted and set forth by the Commission pursuant to this article.

(b) The Commission is authorized to levy a civil penalty up to $500 against any person found in violation of Subsection (a) of Section 24-5-32. The Commission is moreover authorized to levy a civil penalty up to $500.00 for each violation against any installer or installation personnel violating the rules and regulations adopted and set forth by the Commission pursuant to this article. Persons subjected to the operation of this Subsection shall be given a hearing by the Commission on application therefore, and shall be notified of the availability of a hearing by the Commission on imposition of a penalty.

(c) In addition to other penalties provided by law, the Commission and district attorneys are authorized to apply to the circuit courts within their respective jurisdictions, and such courts shall have jurisdiction, upon hearing and for cause shown, to grant appropriate additional relief to prevent or restrain violations of this article.

Author: Jim Sloan