

Rule 5.06.10-4: Alternate Systems

The specifications listed above for the tie-downs are minimum standards. Other anchor systems may be approved by the Division or LAHJ provided that such designs are prepared by a registered professional Mississippi engineer or architect based on the criteria set forth in Federal Manufactured Home Construction & Safety Standards, Section 3280.306.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.06.10-5: Tie-Down Spacing and Sizes

The following specifications are the minimum standards for all tie-down spacing and sizes.

- A. Over the top tie-downs shall be positioned at stud and rafter locations near each end of the Factory-Built home. Others, if needed, may be positioned between them.
- B. A metal roof protector must be used with over-the-roof tie down straps.
- C. Wherever feasible, over the top tie-downs and frame ties directly beneath them may use the same anchors.
- D. All vertical side wall and shear wall tie down buckles existing on the home must be properly strapped and anchored.
- E. All tie-down straps, cables and devices must be tested and approved. All ties shall be fastened to ground anchors and drawn tight with turnbuckles, yoke type fasteners or other such tensioning devices listed with the ground anchor.
- F. All tie-down straps and devices must be attached to the Factory-Built home in accordance with the manufacturer's instructions for the specific types of straps and devices. All tie-down straps and devices must be tested and approved. Straps must be type I, finished B, grade 1 steel strapping, 1 ¼" wide and 0.035" thick conforming with Federal Specifications strapping steel and seals FS QQ-S-781H-1974.
- G. Tie down straps shall not be kinked or bent or otherwise abnormally stressed when installed. Straps must not be in contact with the support piers.
- H. The angle of the diagonal tie down strap shall not exceed 45 degrees between the strap and the ground. If the angle exceeds 45 degrees an additional strap must be installed and attached to the opposite support frame.
- I. All straps must be properly attached to the anchor head according to the manufacturer's installation instruction and properly tensioned. According to manufacturer specifications, the

winding of the strap on the anchor head bolt must contain a minimum of four to five complete turns.

J. Splices in the anchor straps must be installed in accordance with the manufacturer's instructions for straps and devices. If manufacturer instructions for splicing anchor straps are not available, the following instructions will apply. The ends of the straps must overlap a minimum of 6 inches and a maximum of 12 inches. Two (2) crimp seals must be installed in the overlap of the strap ends and each crimp seal must be double crimped.

K. Cables shall be either 7/32 inch diameter or greater (7x7) steel cable or 1/4 inch diameter or greater (7x19) aircraft cable. All cable ends shall be secured with at least two U bolt type cable clamps or other fastening device as approved by the building official.

L. Tie materials shall be capable of resisting an allowable working load of 3,150 lbs. with no more than 2% elongation and shall withstand a 50% overload [4,725 lbs. total]. Tie-downs exposed to weathering shall be resistant to weathering deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz. per square foot of surface coated. Type I, Class B, Grade I, steel strapping 1 1/4 inches wide and 0.035 inch thick, conforming to Federal Specifications QQ S 781 F, is judged to conform to this section.

M. Materials used for ties must terminate with D-rings bolts, or other fastening devices, which will not cause distortion of the band or reduce its breaking strength of 4,725 lb. Please note that ties should be double wrapped (double looped) at top of beam, not at the bottom.

N. Connection of the cable frame tie to the I-beam (or other shape) main structural frame member should be by a 5/8 inch drop forged closed eye bolted through a hole drilled in the center of the I-beam web. A washer, or equivalent, shall be used so that the beam is sufficiently reinforced around the hole. If steel strap ties are used, care should be exercised to insure that minimum bending radius is adhered to so that the breaking strength of the strap is not reduced.

O. Frame ties shall connect the anchor and the steel I-beam (or other shape) main structural frame member which runs lengthwise under the Factory-Built home. Frame ties shall never be connected to any of the steel outrigger beams which fasten to and intersect the main I beam at right angles.

P. Ground anchors should be aligned with center of piers. Also, they should be situated immediately below the outer wall to accommodate over the top ties as well as frame ties.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.06.11: Anchors

Devices used to anchor Factory-Built homes shall meet the requirements listed in the following paragraphs.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.06.11-1: Soil Classification of Anchors

All ground anchors must be installed in the soil types for which they are tested and approved. It should be noted that soil types may vary across a home installation site. Prior to installing any ground anchor, it is the responsibility of the installer/transporter to determine the soil class at the installation site and to ensure that the proper class of anchor is installed for the existing type of soil. The acceptable method for the determination of the soil classification is by a soil test probe. The soil classifications shown in Table I are the accepted standards of this Regulation and are to be used for the purpose of determining the design loads, specifications and holding power of anchors and tie down devices for installation of all Factory-Built homes in the State of Mississippi.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.06.11-2: Determining the Soil Class of Anchors

The use of a soil test probe shall be required in the determination of the soil classification at the installation site for the proper soil class anchor that can be used. A minimum of 6 readings (one at each of the four corners of the home, within two feet of the corners, one at the front center of the home and one at the rear center of the home) shall be required in order to properly choose the anchoring device required for the home. Results of the soil test probe may be averaged and used to determine anchor types based on the anchor manufacturer's installation and/or user manual requirements. However, **all** of the soil test probe torque values and the depth readings obtained at the installation site, including the computed average reading, shall be recorded on the Property Locator/Certificate of Installation to confirm the determined soil class for anchor selection.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.06.11-3: Preferred Soil Class Anchor

If no soil test probe measurements have been obtained for the determination of the soil classification at the installation site, it is preferred that a soil class type C-4 rated anchor shall be used. C-4 rated anchors shall have a minimum auger diameter of 6 inches and shall be installed to their full depth. When the condition of the soil (including ground density, composition, moisture content and compaction) will not allow the C-4 rated anchors to be installed to their full depth,

the C-4 rated anchor that could not be installed shall be left in place, soil test probe readings obtained and the appropriate soil class anchor installed adjacent to the failed C-4 anchor. All ground anchors used shall be capable of withstanding 4,750 lbs. of pull (in a vertical or diagonal direction) without failure.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.06.11-4: Proper Installation of Ground Anchors

A. Ground anchors shall be aligned close to the end of the piers, but not in exact center that will interfere with frame ties.

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

C. Anchors to reinforced concrete slabs must be strength comparable to that presented above. If a Factory-Built home is to be placed on a monolithic concrete slab, the ground anchors may be replaced with anchor bolts imbedded in the concrete slab. The location of the anchor bolt in relation to the longitudinal support I-beam will be the same as the ground anchors.

D. Other anchors which are capable of withstanding 4,750 lbs. of pull without failure may be approved by the Factory-Built Home Division of the State Fire Marshal's Office as equivalent to above specifications.

E. All ground anchors installed in a vertical position having frame tie connections shall have approved stabilizer plates, stabilizer caps, concrete collar, or other approved stabilizer devices installed to resist horizontal movement. The stabilizer device must be installed according to the manufacturer's instructions and the top of the device must be flush with the surface of the soil. If a concrete cap is used it must be a minimum of 10" in diameter and 18" deep. Exception: Stabilizer plates are not required with coral anchors or at centerline or marriage wall locations.

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

G. The "Standard Method of Test for Manufactured Home Anchors, Parts A and B" is described in the Federal Manufactured Home Construction and Safety Standards, 24 CFR Section 3280.401.

H. The use of any alternate systems of anchoring not approved by HUD may be used if proof that the manufacturer of the home has approved the use of such systems is provided with the submittal of the Property Locator/Inspection Report Form.

I. All ground anchors, tie down devices, and ground foundation systems must be installed according to the manufacturer's installation instructions for their respective ground anchors, tie down devices and ground stabilization devices.

J. Rock anchors can only be used in solid rock.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.07: Official Notices and Bulletins

All manufacturers, retailers, developers and installer/transporters shall maintain any and all official notes and/or bulletins issued by the Factory-Built Home Division for three (3) years from the date of issuance. If so required by this Factory-Built Home Division, all manufacturers, retailers, developers and installer/transporters shall display official notices and bulletins in plain view for the public. Exception: Any official notices and bulletins marked as permanent records or **DO NOT DESTROY**.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.08: Severability

If any section or portion of a section of this Regulation or the application thereof is held by a court to be invalid, such invalidity shall not affect any other provision of that section or application of the Regulation which can be given effect without the invalid provision of application, and to this end the provisions of the Regulation are declared to be severable.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.09: Repeal of Emergency Regulations

Regulations MH-2009-1 and MH 2010-3 are repealed.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).

Rule 5.10: Effective Date

This Regulation shall become effective on October 1, 2016.

Source: *Miss. Code Ann.* §§ 75-49-1, et seq.; 75-49-11 (Supp. 2015).