

(2) Each smoke alarm whose primary power source is the home electrical system must be mounted on an electrical outlet box and connected by a permanent wiring method to a general electrical circuit. More than one smoke alarm is permitted to be placed on the same electrical circuit. The wiring circuit for the alarm must not include any switches between the over-current protective device and the alarm, and must not be protected by a ground fault circuit interrupter.

(3) Smoke alarms required under this section must be interconnected such that the activation of any one smoke alarm causes the alarm to be triggered in all required smoke alarms in the home.

(e) *Visible and tactile notification appliances.* (1) In addition to the smoke alarms required pursuant to this section, the manufacturer must provide visible and listed tactile notification appliances if these appliances are ordered by the purchaser or retailer before the home enters the first stage of production. These appliances are required to operate from the primary power source, but are not required to operate from a secondary power source.

(2) A visible notification appliance in a room designed for sleeping must have a minimum rating of 177 candela, except that when the visible notification appliance is wall-mounted or suspended more than 24 inches below the ceiling, a minimum rating of 110 candela is permitted.

(3) A visible notification appliance in an area other than a room designed for sleeping must have a minimum rating of 15 candela.

(f) *Testing and maintenance.* (1) Each required smoke alarm installed at the factory must be operationally tested, after conducting the dielectric test specified in § 3280.810(a), in accordance with the alarm manufacturer's instructions. A smoke alarm that does not function as designed during the test and is not fixed so that it functions properly in the next retest must be replaced. Any replacement smoke alarm must be successfully tested in accordance with this paragraph.

(2) Home manufacturers must provide specific written instructions for installers on how to inspect and test the

operation of smoke alarms during installation of the home. These instructions must indicate that any smoke alarm that does not meet the inspection or testing requirements needs to be replaced and retested.

(3) Home manufacturers must provide the homeowner with the alarm manufacturer's information describing the operation, method and frequency of testing, and proper maintenance of the smoke alarm. This information must be provided in same manner and location as the consumer manual required by § 3282.207 of this chapter, but does not have to be incorporated into the consumer manual. No dealer, distributor, construction contractor, or other person shall interfere with the distribution of this information

[67 FR 12817, Mar. 19, 2002, as amended at 67 FR 49795, July 31, 2002]

#### § 3280.209 Fire testing.

All fire testing conducted in accordance with this subpart shall be performed by nationally recognized testing laboratories which have expertise in fire technology. In case of dispute, the Secretary shall determine if a particular agency is qualified to perform such fire tests.

[49 FR 32011, Aug. 9, 1984]

### Subpart D—Body and Frame Construction Requirements

#### § 3280.301 Scope.

This subpart covers the minimum requirements for materials, products, equipment and workmanship needed to assure that the manufactured home will provide:

- (a) Structural strength and rigidity,
- (b) Protection against corrosion, decay, insects and other similar destructive forces,
- (c) Protection against hazards of windstorm,
- (d) Resistance to the elements, and
- (e) Durability and economy of maintenance.

#### § 3280.302 Definitions.

The following definitions are applicable to subpart D only:

§ 3280.302

24 CFR Ch. XX (4-1-08 Edition)

*Anchoring equipment:* means straps, cables, turnbuckles, and chains, including tensioning devices, which are used with ties to secure a manufactured home to ground anchors.

*Anchoring system:* means a combination of ties, anchoring equipment, and ground anchors that will, when properly designed and installed, resist overturning and lateral movement of the manufactured home from wind forces.

*Diagonal tie:* means a tie intended to primarily resist horizontal forces, but which may also be used to resist vertical forces.

*Footing:* means that portion of the support system that transmits loads directly to the soil.

*Ground anchor:* means any device at the manufactured home stand designed to transfer manufactured home anchoring loads to the ground.

*Loads:* (1) *Dead load:* means the weight of all permanent construction including walls, floors, roof, partition, and fixed service equipment.

(2) *Live load:* means the weight superimposed by the use and occupancy of the manufactured home, including wind load and snow load, but not including dead load.

(3) *Wind load:* means the lateral or vertical pressure or uplift on the manufactured home due to wind blowing in any direction.

*Main frame:* means the structural component on which is mounted the body of the manufactured home.

*Pier:* means that portion of the support system between the footing and manufactured home exclusive of caps and shims.

*Sheathing:* means material which is applied on the exterior side of a building frame under the exterior weather resistant covering.

*Stabilizing devices:* means all components of the anchoring and support system such as piers, footings, ties, anchoring equipment, ground anchors, and any other equipment which supports the manufactured home and secures it to the ground.

*Support system:* means a combination of footings, piers, caps, and shims that will, when properly installed, support the manufactured home.

*Tie:* means straps, cable, or securing devices used to connect the manufactured home to ground anchors.

*Vertical tie:* means a tie intended to resist the uplifting or overturning forces.

[58 FR 55005, Oct. 25, 1993; 59 FR 15113, Mar. 31, 1994]

EFFECTIVE DATE NOTE: At 72 FR 59361, Oct. 19, 2007, §3280.302 was amended by adding the definitions of anchor assembly, foundation system, and support system in alphabetical order and revising the definitions of anchoring equipment, anchoring system, diagonal tie, ground anchor, and stabilizing devices, effective Oct. 20, 2008. For the convenience of the user, the added and revised text is set forth as follows:

§3280.302 Definitions.

\* \* \* \* \*

*Anchor assembly* means any device or other means designed to transfer home anchoring loads to the ground.

*Anchoring equipment* means ties, straps, cables, turnbuckles, chains, and other approved components, including tensioning devices that are used to secure a manufactured home to anchor assemblies.

*Anchoring system* means a combination of anchoring equipment and anchor assemblies that will, when properly designed and installed, resist the uplift, overturning, and lateral forces on the manufactured home and on its support and foundation system.

*Diagonal tie* means a tie intended to resist horizontal or shear forces, but which may resist vertical, uplift, and overturning forces.

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*Foundation system* means a system of support that is capable of transferring all design loads to the ground, including elements of the support system as defined in this section, or a site-built permanent foundation that meets the requirements of 24 CFR 3282.12.

*Ground anchor* means a specific anchoring assembly device designed to transfer home anchoring loads to the ground.

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*Stabilizing devices* means all components of the anchoring and support systems, such as piers, footings, ties, anchoring equipment, anchoring assemblies, or any other equipment, materials, and methods of construction that support and secure the manufactured home to the ground.

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*Support system* means any pilings, columns, footings, piers, foundation walls, shims, and any combination thereof that, when properly installed, support the manufactured home.

### § 3280.303 General requirements.

(a) *Minimum requirements.* The design and construction of a manufactured home shall conform with the provisions of this standard. Requirements for any size, weight, or quality of material modified by the terms of *minimum, not less than, at least*, and similar expressions are minimum standards. The manufacturer or installer may exceed these standards provided such deviation does not result in any inferior installation or defeat the purpose and intent of this standard.

(b) *Construction.* All construction methods shall be in conformance with accepted engineering practices to insure durable, livable, and safe housing and shall demonstrate acceptable workmanship reflecting journeyman quality of work of the various trades.

(c) *Structural analysis.* The strength and rigidity of the component parts and/or the integrated structure shall be determined by engineering analysis or by suitable load tests to simulate the actual loads and conditions of application that occur. (See subparts E and J.)

(d) [Reserved]

(e) *New materials and methods.* (1) Any new material or method of construction not provided for in this standard and any material or method of questioned suitability proposed for use in the manufacture of the structure shall nevertheless conform in performance to the requirements of this standard.

(2) Unless based on accepted engineering design for the use indicated, all new manufactured home materials, equipment, systems or methods of construction not provided for in this standard shall be subjected to the tests specified in paragraph (g) of this section.

(f) *Allowable design stress.* The design stresses of all materials shall conform to accepted engineering practice. The use of materials not certified as to strength or stress grade shall be limited to the minimum allowable stresses under accepted engineering practice.

(g) *Alternative test procedures.* In the absence of recognized testing procedures either in the Standards in this

part or in the applicable provisions of those standards incorporated in this part by reference, the manufacturer electing this option must develop or cause to be developed testing procedures to demonstrate the structural properties and significant characteristics of the material, assembly, sub-assembly component, or member, except for testing methods involving one-piece metal roofing as would be required in § 3280.305(c)(1)(iii). Such testing procedures become part of the manufacturer's approved design. Such tests must be witnessed by an independent licensed professional engineer or architect or by a recognized testing organization. Copies of the test results must be kept on file by the manufactured home manufacturer.

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 58 FR 55005, Oct. 25, 1993; 59 FR 2469, Jan. 14, 1994; 70 FR 72043, Nov. 30, 2005]

### § 3280.304 Materials.

(a) Dimension and board lumber shall not exceed 19 percent moisture content at time of installation.

(b)(1) Standards for some of the generally used materials and methods of construction are listed in the following table:

#### Aluminum

Aluminum Design Manual, Specifications and Guidelines for Aluminum Structures, Part 1-A, Sixth Edition, October 1994, and Part 1-B, First Edition, October 1994.

#### Steel

Specification for Structural Steel Buildings—Allowable Stress Design and Plastic Design—AISC—S335, 1989. The following parts of this reference standard are not applicable: 1.3.3, 1.3.4, 1.3.5, 1.3.6, 1.4.6, 1.5.1.5, 1.5.5, 1.6, 1.7, 1.8, 1.9, 1.10.4 through 1.10.7, 1.10.9, 1.11, 1.13, 1.14.5, 1.17.7 through 1.17.9, 1.19.1, 1.19.3, 1.20, 1.21, 1.23.7, 1.24, 1.25.1 through 1.25.5, 1.26.4, 2.3, 2.4, 2.8 through 2.10.

Specification for the Design of Cold-Formed Steel Structural Members—AISI—1996.

Specification for the Design of Cold-Formed Stainless Steel Structural Members—SEI/ASCE 8-02, 2002.

Standard Specifications Load Tables and Weight Tables for Steel Joists and Joist Girders, SJI, Fortieth Edition, 1994.

Structural Applications of Steel Cables for Buildings—ASCE19, 1996.