

(e) Glazing in the following locations is not required to meet the requirements in paragraph (b) of this section:

(1) Openings in doors through which a 3-inch sphere is unable to pass;

(2) Leaded and decorative glazed panels;

(3) Glazing in jalousie-type doors;

(4) Glazing as described in paragraph (b)(6) of this section when an intervening wall or other permanent barrier exists between the door and the glazing;

(5) Glazing as described in paragraph (b)(7) of this section when a protective bar or member is installed horizontally between 34 inches and 38 inches above the room floor level, as long as the bar or member is a minimum of 1½ inches in height and capable of resisting a horizontal load of 50 pounds per lineal foot; and

(6) Mirrors mounted on a flush door surface or solid wall surface.

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 52 FR 4581, Feb. 12, 1987. Redesignated at 58 FR 55004, Oct. 25, 1993; 78 FR 73981, Dec. 9, 2013; 86 FR 2517, Jan. 12, 2021]

§ 3280.114 Stairways.

(a) *Stairways*—(1) *General*. These minimum standards apply to stairways that are designed and constructed as part of the factory-completed transportable section(s) of a manufactured home, such as interior stairways for multi-level or multi-story homes or external stairways for multi-level construction features that are designed and constructed in the factory on a transportable section and integral to the access and egress needs within the transportable section(s) of a home. These standards do not apply to exterior stairways that are built at the home site or stairways to basement areas that are not designed and built as part of a transportable section of a manufactured home.

(2) *Width*. Stairways must not be less than 36 inches in clear width at all points above permitted handrail height and below the required headroom height. Handrails must not project more than 4½ inches on either side of the stairway and the minimum clear width of the stairway at and below the handrail height, including treads and

landings, must not be less than 31½ inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides.

(3) *Stair treads and risers*—(i) *Riser height and tread depth*. The maximum riser height must not exceed 8¼ inches and the minimum tread depth must not be less than 9 inches. The riser height must be measured vertically between leading edges of the adjacent treads. The tread depth must be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The walking surface of treads and landings of a stairway must be sloped no steeper than one unit vertical in 48 units horizontal (a 2-percent slope). The greatest riser height within any flight of stairs must not exceed the smallest by more than ¾ inch. The greatest tread depth within any flight of stairs must not exceed the smallest by more than ¾ inch.

(ii) *Profile*. The radius of curvature at the leading edge of the tread must not be greater than ⅝ inch. A nosing not less than ¾ inch but not more than 1¼ inches shall be provided on stairways with solid risers. The greatest nosing projection must not exceed the smallest nosing projection by more than ¾ inch between two stories, including the nosing at the level of floors and landings. Beveling of nosing must not exceed ½ inch. Risers must be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees from the vertical. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4-inch diameter sphere. A nosing is not required where the tread depth is a minimum of 11 inches. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches or less.

(4) *Headroom*. The minimum headroom in all parts of the stairway must not be less than 6 feet 8 inches, measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform.

(5) *Winders (winding stairways)*. Winders are permitted, provided that the width of the tread at a point not more

than 12 inches from the side where the treads are narrower is not less than 10 inches and the minimum width of any tread is not less than 6 inches. Within any flight of stairs, the greatest winder tread depth at the 12-inch walk line must not exceed the smallest by more than $\frac{3}{8}$ inch. The continuous handrail required by paragraph (c)(3) of this section must be located on the side where the tread is narrower.

(6) *Spiral stairways.* Spiral stairways are permitted provided the minimum width is a minimum 26 inches with each tread having $7\frac{1}{2}$ inch minimum tread width at 12 inches from the narrow edge. All treads must be identical, and the rise must be no more than $9\frac{1}{2}$ inches. Minimum headroom of 6 feet, 6 inches must be provided.

(7) *Circular stairways.* Circular stairways must have a tread depth at a point not more than 12 inches from the side where the treads are narrower of not less than 11 inches and the minimum depth of any tread must not be less than 6 inches. Tread depth at any walking line, measured a consistent distance from a side of the stairway, must be uniform as specified in paragraph (a)(2)(i) of this section.

(b) *Landings.* Every landing must have a minimum dimension of 36 inches measured in the direction of travel. Landings must be located as follows:

(1) There must be a floor or landing at the top and bottom of each stairway, except at the top of an interior flight of basement stairs, provided a door does not swing over the stairs.

(2) A landing or floor must be located on each side of an interior doorway and exterior doorway, to the extent the external stairway is designed by the home manufacturer and constructed in the factory, and the width of each landing must not be less than the door it serves. The maximum threshold height above the floor or landing must be $1\frac{1}{2}$ inches.

(c) *Handrails—(1) General.* A minimum of one handrail meeting the requirements of this section must be installed on all stairways consisting of four or more risers. Handrails must be securely attached to structural framing members. A minimum space of $1\frac{1}{2}$ inches must be provided between the

adjoining wall surface and the handrail.

(2) *Handrail height.* Handrails must be installed between 34 inches and 38 inches measured vertically from the leading edge of the stairway treads except that handrails installed up to 42 inches high must be permitted if serving as the upper rails of guards required by paragraph (d) of this section.

(3) *Continuity.* Required handrails must be continuous from a point directly above the leading edge of the lowest stair tread to a point directly above the leading edge of the landing or floor surface at the top of the stairway. If the handrail is extended at the top of the stairway flight, the extension must parallel the floor or landing surface and must be at the same height as the handrail above the leading edges of the treads. If the handrail is extended at the base of the stair, it must continue to slope parallel to the stair flight for a distance of one tread depth, measured horizontally, before being terminated or returned or extended horizontally. The ends of handrails must return into a wall or terminate in a safety terminal or newel post.

(4) *Graspability.* Required handrails must, if circular in cross section, have a minimum $1\frac{1}{4}$ -inch and a maximum 2-inch diameter dimension. Handrails with a noncircular cross section must have a perimeter dimension of at least 4 inches and not more than $6\frac{1}{4}$ inches (with a maximum cross-section dimension of not more than $2\frac{1}{4}$ inches). The handgrip portion of the handrail must have a smooth surface. Edges must have a minimum $\frac{1}{8}$ -inch radius. Handrails must be continuously graspable along their entire length except that brackets or balusters are not considered obstructions to graspability if they do not project horizontally beyond the sides of the handrail within $1\frac{1}{2}$ inches of the bottom of the handrail.

(5) *Required resistance of handrails.* Handrails must be designed to resist a load of 20 lb./ft applied in any direction at the top and to transfer this load through the supports to the structure. All handrails must be able to resist a single concentrated load of 200 lbs., applied in any direction at any point

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along the top, and have attachment devices and supporting structures to transfer this loading to appropriate structural elements of the building. This load is not required to be assumed to act concurrently with the loads specified in this section.

(d) *Guards.* (1) Porches, balconies, or raised floor surfaces located more than 30 inches above the floor or grade below must have guards not less than 36 inches in height. Open sides of stairs with a total rise of more than 30 inches above the floor or grade below must have guards not less than 34 inches in height measured vertically from the nosing of the treads. Balconies and porches on the second floor or higher must have guards a minimum of 42 inches in height.

(2) Required guards on open sides of stairways, raised floor areas, balconies, and porches must have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches in diameter.

(i) The triangular openings formed by the riser, tread and bottom rail of a guard at the open side of the stairway must be of such a size that a sphere of 6 inches cannot pass through.

(ii) Guard systems must be designed to resist a load of 20 lb./ft applied in any direction at the top and to transfer this load through the supports to the structure. All guard systems must be able to resist a single concentrated load of 200 lb., applied in any direction at any point along the top and have attachment devices and supporting structures to transfer this loading to appropriate structural elements of the building. This load is not required to be assumed to act concurrently with the loads specified in this section.

(e) *Stairway illumination.* All interior and exterior stairways must be provided with a means to illuminate the stairways, including the landings and treads.

(1) Interior stairways must be provided with an artificial light source located in the immediate vicinity of each landing of the stairway. For interior stairs, the artificial light sources must be capable of illuminating treads and landings to levels not less than one (1) foot-candle measured at the center of treads and landings. The control and

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activation of the required interior stairway lighting must be accessible at the top and bottom of each stairway without traversing any steps.

(2) Exterior stairways designed by the home manufacturer and constructed in the factory must be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway. An artificial light source is not required at the top and bottom landing, provided an artificial light source is located directly over each stairway section. The illumination of exterior stairways must be controlled from inside the home.

[86 FR 2517, Jan. 12, 2021]

Subpart C—Fire Safety

SOURCE: 49 FR 32008, Aug. 9, 1984, unless otherwise noted.

§ 3280.201 Scope.

The purpose of this subpart is to set forth requirements that will assure reasonable fire safety to the occupants by reducing fire hazards and by providing measures for early detection.

§ 3280.202 Definitions.

The following definitions are applicable to subparts C, H, and I of the Standards:

Combustible material: Any material not meeting the definition of limited-combustible or non-combustible material.

Flame-spread rating: The measurement of the propagation of flame on the surface of materials or their assemblies as determined by recognized standard tests conducted as required by this subpart.

Interior finish: The surface material of walls, fixed or movable partitions, ceilings, columns, and other exposed interior surfaces affixed to the home's structure including any materials such as paint or wallpaper and the substrate to which they are applied. Interior finish does not include:

(1) Trim and sealant 2 inches or less in width adjacent to the cooking range and in furnace and water heater spaces provided it is installed in accordance with the requirements of § 3280.203(b)(3)