

FIRE RESISTANT CONSTRUCTION

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302.1 EXTERIOR WALLS: Construction of exterior walls parallel to lot line of dwellings and accessory buildings less than 5 feet from lot line (less than 3 feet with fire sprinklers) shall be minimum 1 hour fire-resistance rating; projections within 2 to 5 feet from lot line (2 to 3 feet with fire sprinklers) shall have minimum 1 hour fire-resistance rating on underside; maximum 25% of wall area with openings within 3 to 5 feet from lot line (unlimited openings within 3 to 5 feet with fire sprinklers); penetrations less than 3 feet from lot line shall be approved fire-resistance rated assembly.

302.5 DWELLING-GARAGE OPENING AND PENETRATION PROTECTION: Openings between garage and residence shall be equipped with solid wood doors not less than 1-3/8 inches in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches thick, or 20 minute fire-rated doors, equipped with a self-closing or automatic closing device. Ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of minimum 26 gauge sheet steel and shall not have openings into the garage.

302.6 DWELLING-GARAGE FIRE SEPARATION: Garage separation from residence and attics or structures supporting floor/ceiling assemblies used for separation with 1/2 inch gypsum board applied to garage side. Garage separation from habitable rooms above garage with 5/8 inch Type X gypsum board applied to garage side.

302.7 UNDER STAIR PROTECTION: Enclosed space under stairs that is accessed by a door or access panel shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2 inch gypsum board.

302.8 FOAM PLASTICS: Foam plastic or foam plastic cores shall have a flame spread index of not more than 75 and shall have a smoke-developed index of not more than 450 when tested in the maximum thickness and density intended for use in accordance with ASTM E84 or UL 723. Loose-fill-type foam plastic insulation shall be tested as board stock for the flame spread index and smoke-developed index. Foam plastic shall be separated from the interior of a building by 1/2 inch gypsum wallboard, 23/32 inch wood structural panel, 15/32 inch tongue-and-groove wood planks or wood structural sheathing, 1 inch masonry or concrete or a material that is tested and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275. Foam plastics in attics shall be protected against ignition using 1-1/2 inch mineral fiber or cellulose insulation, 1/4 inch wood structural panels, or 3/8 inch particleboard or gypsum board.

Foam plastics in crawl spaces shall be protected against ignition using 1-1/2 inch mineral fiber insulation, 1/4 inch wood structural panels or hardboard or fiber-cement panel board, or 3/8 inch particleboard or gypsum board. Foam plastics used as interior finishes shall be specifically approved on NFPA 286 test with the acceptance criteria of FM 4880, UL 1040 or UL 1715, or fire tests related to actual end-use configurations. Foam plastics spray applied to sill plates and headers or installed in the perimeter joist space shall be not more than 3-1/4 inches thick, 0.5 to 2.0 pounds per cubic foot density, flame spread index of 25 or less and smoke-developed index of 450 or less when tested in accordance with ASTM E84 or UL 723.

302.9 FLAME SPREAD INDEX AND SMOKE-DEVELOPED INDEX FOR WALL AND CEILING FINISHES: Wall and ceiling finishes shall have a flame spread index of not greater than 200, except for trim defined as picture molds, chair rails, baseboards and handrails; to doors and windows or their frames; or to materials that are less than 1/28 inch in thickness cemented to the surface of walls or ceilings. Wall and ceiling finishes shall have a smoke-developed index of not greater than 450 in accordance with ASTM E84 or UL 723.

302.10 FLAME SPREAD INDEX AND SMOKE-DEVELOPED INDEX FOR INSULATION: Insulating materials installed within floor-ceiling assemblies, roof-ceiling assemblies, wall assemblies, crawl spaces and attics shall have a flame spread index of not to exceed 25 and a smoke-developed index not to exceed 450 in accordance with ASTM E84 or UL 723. Exposed insulation materials installed on attic floors shall have a critical radiant flux of not less than 0.12 watt per square centimeter in accordance with ASTM E970.

302.11 FIREBLOCKING: Fireblocking shall be provided to cut off vertical and horizontal concealed draft openings and to form a fire barrier between stories and between top story and roof space. Provide in concealed spaces of stud walls and partitions including furred spaces and parallel rows of studs or staggered studs as follows: vertically at ceiling and floor levels, horizontally at intervals not exceeding 10 feet; at interconnections between concealed vertical and horizontal spaces at soffits, drop ceilings and cove ceilings; in concealed spaces between stair stringers at top and bottom of run; at openings around vents, pipes, ducts, cables and wires at ceiling and floor levels with approved material to resist passage of flame and products of combustion; and fireblocking chimneys and fireplaces. Fireblocking shall be 2 inch nominal lumber, tow thicknesses of 1 inch nominal lumber with broken lap joints, 23/32 inch wood structural panels with joints backed by 23/32 inch wood structural panels, 3/4 inch particleboard with joints backed by 3/4 inch particleboard, 1/2 inch gypsum board, 1/4 inch cement-based millboard, batts or blankets of mineral wool or glass fiber securely retained in place, or cellulose insulation in accordance with ASTM E119 or UL263. Unfaced fiberglass batt insulation shall fill the entire cross section of the wall cavity to a height of not less than 16 inches. Where piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction. Loose-fill insulation shall not be used as fireblock.

302.12 DRAFTSTOPPING: In combustible construction with usable space above and below concealed space of floor-ceiling assembly, draftstops shall be installed so area of concealed space does not exceed 1,000 square feet, dividing space into equal areas. Where assembly is enclosed by floor membrane above and ceiling membrane below, draftstopping shall be provided in floor-ceiling assemblies where ceiling is suspended under floor framing, or floor framing is constructed of truss-type open web or perforated members. Draftstopping shall be 1/2 inch gypsum board, 3/8 inch wood structural panels or other approved materials. Draftstopping shall be installed parallel to floor framing members.

302.13 FIRE PROTECTION OF FLOORS: Floor assemblies to be fire-resistance rated, provided with 1/2 inch gypsum wallboard membrane, 5/8 inch wood structural panel membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar penetrations shall be permitted. Floor assemblies above fire sprinklers, above a crawl space not intended for storage of heating appliances, that do not exceed 80 square feet, with perimeter fireblocking separating from protected floor assemblies, or wood floor assemblies equal or greater than 2x10 inch nominal dimension shall be exempt from fire protection.

302.14 COMBUSTIBLE INSULATION CLEARANCE: Combustible insulation shall be separated not less than 3 inches from recessed luminaires, fan motors and other heat-producing devices, except where devices are listed for lesser clearances with combustible insulation complying, meeting requirements of Section N1102.4.5.

LIGHT, VENTILATION AND HEATING

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303.1 HABITABLE ROOMS: Habitable rooms shall have aggregate glazing area of a minimum 8% of floor area, except when artificial light provides average illumination of 6 footcandles over area of room 30 inches off floor. Natural ventilation shall be through windows, skylights, doors, louvers or other approved openings to outdoor air, with ready access controllable by occupants. Openable area shall be a minimum 4% of floor area ventilated, except when equipped with whole-house mechanical ventilation system. Sunroom and patio covers are permitted for glazed openings and natural ventilation when minimum 40% of exterior sunroom walls are open or insect screening and a minimum 7 feet ceiling height in sunroom. Adjoining rooms have minimum 50% unobstructed opening in common wall, with minimum opening 10% of floor area of interior room and minimum 25 square feet, minimum 20 square feet into a sunroom or patio cover.

303.3 BATHROOMS: Bathrooms and water closets shall have aggregate glazing area of a minimum 3 square feet, 50% shall be operable, except when artificial light and exhaust system exhausts air directly to the outdoors.

303.4 MECHANICAL VENTILATION: Where air infiltration rate is a maximum 5 air changes per hour tested with a blower door at a pressure of 0.2 inch w.c. (50 Pa), there shall be whole-house mechanical ventilation in accordance with Section M1505.4. Outdoor air intake openings shall be located minimum 10 feet from hazardous or noxious contaminant, such as vents, chimneys, plumbing vents, streets, alleys, parking lots or loading docks. Exhaust air openings shall not be directed onto walkways. Air intake and exhaust openings shall be protected with corrosion-resistant screens, louvers or grills with openings between 1/4 inch to 1/2 inch.

303.7 INTERIOR STAIRWAY ILLUMINATION: Interior stairways shall have an artificial light source illuminating landings and treads, at minimum 1 foot-candle measured at center of treads and landings, with wall switch at each floor level when stairway has minimum 6 risers. Switch is not required with remote or automatic control.

303.8 EXTERIOR STAIRWAY ILLUMINATION: Exterior stairways shall have an artificial light source located at top landing and at bottom landing when accessing basement from outdoor grade level.

303.10 REQUIRED HEATING: Heating facilities shall be provided maintaining a minimum room temperature of 68 degrees fahrenheit at 3 feet above floor and 2 feet from exterior walls in habitable rooms. Portable space heaters are not permitted to achieve compliance.

MINIMUM ROOM AREAS

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304.1 MINIMUM AREA: Habitable rooms shall be a minimum 70 square feet, except kitchens.

304.2 MINIMUM DIMENSIONS: Habitable rooms shall be a minimum 7 feet in any horizontal dimension, except kitchens.

304.3 HEIGHT EFFECT ON ROOM AREA: Portions of a room with a sloping ceiling measuring less than 5 feet or a furred ceiling measuring less than 7 feet from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required habitable area for that room.

CEILING HEIGHT

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305.1 MINIMUM HEIGHT: Habitable rooms, hallways and portions of basements containing these spaces shall have a minimum 7 feet ceiling height. Bathrooms, toilet rooms and laundry rooms shall have a minimum 6 feet 8 inches ceiling height, except sloped ceiling rooms with required floor area of room of minimum 5 feet ceiling height and minimum 50% of required floor area of minimum 7 feet ceiling height. Ceiling height above bathroom and toilet fixtures shall provide for intended purpose. Showers shall have a minimum 6 feet 8 inches ceiling height above 30 inches by 30 inches area at the showerhead. Portions of basements that do not contain habitable space or hallways shall have a minimum 6 feet 8 inches ceiling height. Beams, girders, ducts or other obstructions in basements are permitted to project at minimum 6 feet 4 inches above finish floor.

SANITATION

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306.1 TOILET FACILITIES: Shall provide a minimum one water closet, lavatory and bathtub or shower.

306.2 KITCHEN: Shall provide a kitchen area with a minimum one sink.

306.3 SEWAGE DISPOSAL: Plumbing fixtures shall be connected to a sanitary sewer or to an approved private sewage disposal system.

306.4 WATER SUPPLY TO FIXTURES: Plumbing fixtures shall be connected to an approved water supply. Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs and washing machine outlets shall be provided with hot and cold water.

TOILET, BATH AND SHOWER SPACES

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307.1 SPACE REQUIRED: Water closets shall be center a minimum 15 inches off side wall or cabinetry, with a minimum 21 inches clear space in front. Lavatories shall have a minimum 21 inches clear space in front. Showers shall be a minimum 30 inches by 30 inches in floor size, with a minimum 24 inches clear space in front of opening.

307.2 BATHTUB AND SHOWER SPACES: Bathtub and shower floors and walls above bathtubs with installed shower heads and in shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a minimum height of 6 feet above the floor.

GLAZING

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308.2 LOUVERED WINDOWS: Regular, float, wired or patterned glass in jalousies and louvered windows shall be minimum nominal 3/16 inch thick and maximum 48 inches in length. Exposed glass edges shall be smooth.

308.4 HAZARDOUS LOCATIONS: Glazing in fixed and operable panels of swinging, sliding and bifold doors are hazardous location, except glazed openings less than 3 inches or decorative glazing. Glazing in fixed or operable panel adjacent to a door are hazardous location, where bottom exposed edge of glazing is less than 60 inches above floor or walking surface and within 24 inches of the closed door or less than 180 degrees from plane of closed swinging door, except decorative glazing, when a permanent barrier between door and glazing, where door is to a closet or storage area maximum 3 feet deep, or glazing adjacent to fixed panel of patio doors. Glazing in fixed or operable panel is hazardous location when exposed area of individual pane is larger than 9 square feet, bottom edge of glazing is less than 18 inches above floor, top edge of glazing is more than 30 inches above floor, and a walking surface is within 36 inches measured horizontally, except decorative glazing, when a horizontal rail is adjacent 34 inches to 38 inches above walking surface and minimum 1-1/2 inch cross section with withstanding a minimum horizontal load of 50 pounds per linear foot, or insulating glass units and glazed panels where bottom edge is minimum 25 feet above walking surface adjacent to glass exterior. Glazing in guards and railings are hazardous location. Structural glass baluster panels shall have attached top rail or handrail supported by minimum three glass baluster panels, except laminated glass. Glazing in walls, enclosures or fences facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers, or swimming pools where bottom exposed edge in less than 60 inches above walking surface are hazardous location, except glazing more than 60 inches horizontally from water's edge of fixture. Glazing with bottom edge less than 36 inches above walking surface of stairways, landings between flights of stairs and ramps are hazardous locations, except when a horizontal rail is adjacent 34 inches to 38 inches above walking surface and minimum 1-1/2 inch cross section with withstanding a minimum horizontal load of 50 pounds per linear foot or a minimum 36 inches measure horizontally from walking surface. Glazing adjacent to landing at bottom of stairway where glazing is less than 36 inches above landing and less than 60 inches horizontal arc less than 180 degrees from bottom tread nosing are hazardous location, except where glazing is protected by a guard more than 18 inches away.

308.6 SKYLIGHTS: Skylights, sloped glazing and tubular daylighting devices shall be laminated glass with a minimum 0.015 inch polyvinyl butyral interlayer for glass panes maximum 16 square feet located less than 12 feet above walking surface (minimum 0.030 inch interlayer for larger sizes or higher locations), fully tempered glass, heat-strengthened glass, wired glass or approved rigid plastics. Fully tempered, heat-strengthened glass, or wired glass shall have a retaining screen installed below the glass. Greenhouse glazing is permitted without screening below the sloped glazing when greenhouse ridge is maximum 20 feet above grade. Screens and fasteners shall support twice weight of glazing, with mesh opening maximum of 1 inch by 1 inch. Skylights installed on roof with maximum pitch of 3 units vertical in 12 units horizontal shall be mounted on a curb extending a minimum 4 inches above roof, unless otherwise specified in manufacturer installation instructions.

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