

BASEMENT FINISH REQUIREMENTS WHERE APPLICABLE

Codes from the 2021 International Residential Code



1. **R305.1 Room Minimum height.** Habitable space, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet. Portions of basements that do not contain habitable space, hallways, bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches. Exception: Beams, girders, ducts or other obstructions may project to within 6 feet 4 inches of the finished floor.
2. **R310.1 Emergency escape and rescue required.** Basements, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Where emergency escape and rescue openings are provided they shall have a height of not more than 44 inches measured from the finished floor to the bottom of the clear opening. All basement emergency escape and rescue openings shall have a minimum net clear opening of 5 square feet. The minimum net clear opening height shall be 24 inches. The minimum net clear opening width shall be 20 inches. Emergency escape openings shall be operational from inside of the room without the use of keys, tools or special knowledge.
3. **R310.4 Window wells.** The minimum horizontal area of the window well shall be 9 square feet, with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened. Exception: The ladder or steps shall be permitted to encroach a maximum of 6 inches into the required dimensions of the window well.

R310.4.2 Ladder and steps. Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps usable with the window in the fully open position. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall, and shall be spaced not more than 18 inches o.c. vertically for the full height of the window well.

R310.2.4 Emergency escape windows under decks and porches. Emergency escape windows are allowed to be installed under decks and porches provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36 inches in height and 36 inches in width to a yard or court.

R310.4.4 Bars, grilles, covers and screens. Bars, grilles, covers, screens or similar devices are permitted to be placed over emergency escape and rescue openings, bulkhead enclosures, or window wells that serve such openings, provided the minimum net clear opening size complies; and, such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or force greater than that which is required for normal operation of the escape and rescue opening.
4. **R314.3 Smoke alarm location.** Smoke alarms shall be installed in each sleeping room; and, outside each separate sleeping area in the immediate vicinity of the bedrooms. Smoke alarms shall not be placed closer than 3 feet outside a bathroom door.
5. **R315.1 Carbon monoxide alarms.** An approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages, also within bedrooms where a fuel-burning appliance (such as a fireplace) is located.
6. **R303.3 Bathroom ventilation.** Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet, one-half of which must be openable. Exception: The glazed areas shall not be required where artificial light and a local exhaust system are provided. Exhaust air from the space shall be exhausted directly to the outdoors.

AREA TO BE EXHAUSTED	EXHAUST RATES
Bathrooms-Toilet Rooms	Mechanical exhaust capacity of 50 cfm intermittent or 20 cfm continuous

M150.5.2 Recirculation of exhaust air. Exhaust air from bathrooms shall not be recirculated within a residence and shall be exhausted directly to the outdoors.

M150.2.3 Duct termination. Exhaust ducts shall terminate on the outside of the building. Exhaust duct terminations shall terminate not less than 3 feet in any direction from openings into buildings. Exhaust duct terminations shall be equipped with a backdraft damper.

7. **E3901.2 GENERAL USE RECEPTACLE DISTRIBUTION** – Electrical Outlets. Receptacles shall be installed so that no point measured horizontally along the floor line of any wall space is more than 6 feet from a receptacle outlet.

E3901.4.1 Wall countertop space. A receptacle outlet shall be installed at each wall countertop space 12 inches or wider. Receptacle outlets shall be installed so that no point along the wall line is more than 24 inches, measured horizontally from a receptacle outlet in that space.

E3901.4.2 Island countertop spaces. At least one receptacle outlet shall be installed at each island countertop space with a long dimension of 24 inches or greater and a short dimension of 12 inches or greater.

E3901.6 Bathroom. At least one wall receptacle outlet shall be installed in bathrooms and such outlet shall be located within 36 inches of the outside edge of each lavatory basin.

E3901.9 Basements. At least one receptacle outlet, in addition to any provided for specific equipment, shall be installed in each basement. Where a portion of the basement is finished into one or more habitable room(s), each separate unfinished portion shall have a receptacle outlet installed in accordance with this section. **E3901.10 Hallways.** Hallways of 10 feet or more in length shall have at least one receptacle outlet. The hall length shall be considered the length measured along the centerline of the hall without passing through a doorway. **E3902.1 Bathroom receptacles.** All 125-volt, single-phase, 15- and 20-ampere receptacles installed in bathrooms shall have ground-fault circuit-interrupter protection for personnel.

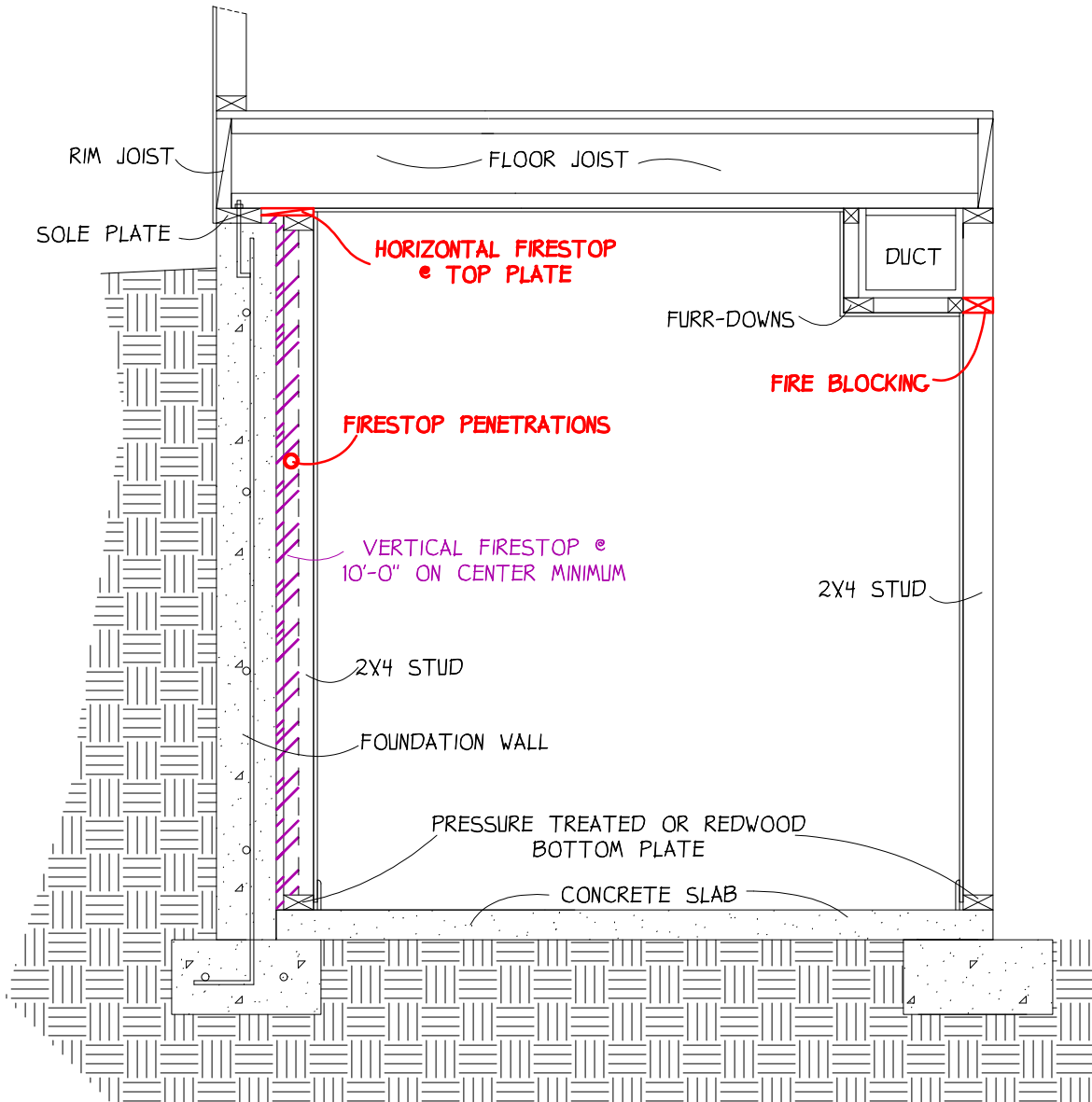
E3902.5 Unfinished basement receptacles. All 125-volt, single-phase, 15- and 20-ampere receptacles installed in unfinished basements shall have ground-fault circuit-interrupter protection for personnel.

E3902.6 Kitchen receptacles. All 125-volt, single-phase, 15- and 20-ampere receptacles that serve countertop surfaces shall have ground-fault circuit-interrupter protection.

E3902.7 Sink receptacles. All 125-volt, single-phase, 15- and 20-ampere receptacles that are located within 6 feet of the outside edge of a sink that is located in an area other than a kitchen, shall have ground-fault circuit-interrupter protection for personnel.

E3902.9 Laundry areas. All 125-volt, single-phase, 15- and 20-ampere receptacles that are installed in laundry areas shall have ground-fault circuit-interrupter protection for personnel.
8. **E4002.14 Tamper-resistant receptacles.** 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles.
9. **E3903.2 Habitable room lighting.** At least one wall switch-controlled lighting outlet shall be installed in every habitable room and bathroom.

E3903.3 Additional lighting locations. At least one wall-switch-controlled lighting outlet shall be installed in hallways and stairways. At least one wall-switch-controlled lighting outlet shall be installed to provide illumination on the exterior side of each outdoor egress door having grade level access. Where one or more lighting outlets are installed for interior stairways, there shall be a wall switch at each floor level and landing level that includes an entryway to control the lighting outlets where the stairway between floor levels has six or more risers. **E3903.4 Storage or equipment space lighting.** In basements, at least one lighting outlet shall be installed where these spaces are used for storage or contain equipment requiring servicing. Such lighting outlet shall be controlled by a wall switch or shall have an integral switch. The lighting outlet shall be provided at or near the equipment requiring servicing.
10. **N1102.1.2 Insulation requirements.** Basement wall R-Value shall be R15 continuous, R20 cavity, or R13 Cavity insulation along with an R5 continuous.
11. **N1102.4 Air leakage.** The building thermal envelope shall be constructed to limit air leakage. All wire, cable, or plumbing penetrations of the top plates in wall framing shall be sealed.
12. **Outside entrance and stairwell.** Engineering will be required if adding an outside walk-out exit unless it is in the location of an existing window buck in the foundation. Engineering will also be required when enlarging the width of original window buck opening. The drawings shall also show the retaining wall foundation along with the footing. Also show French drain and how house's original footing will be protected from frost. An exterior light is also required at exterior door landings.



BASEMENT FINISH-OUT FIRESTOP EXAMPLE

NOT TO SCALE

BASEMENT FINISH FIRESTOP REQUIREMENTS

Based on the 2021 International Residential Code



Firestops shall be installed vertically at least every 10 feet in the space between the foundation wall and the backside of the wood framed wall. This firestop shall be installed for the full height of the stud wall around the perimeter of the basement. Also, firestop shall be installed between the top plate of the framed exterior wall and the sole plate that supports the floor joists.

R302.11 Fireblocking.

In combustible construction, fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories.

Fireblocking shall be provided in wood-frame construction in the following locations:

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
 - (a) Vertically at the ceiling and floor levels.
 - (b) Horizontally at intervals not exceeding 10 feet.
2. At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of the run.
4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an *approved* material to resist the free passage of flame and products of combustion.

All penetrations of the firestop or fire blocking shall be sealed with an approved firestop or fireblocking material.

R302.11.1 Fireblocking materials.

Except as provided above in [Section R302.11](#), Item 4, fireblocking shall consist of the following materials.

1. 2 inch nominal lumber.
2. Two thicknesses of 1-inch nominal lumber with broken lap joints.
3. One thickness of $2\frac{3}{32}$ -inch wood structural panels with joints backed by $2\frac{3}{32}$ -inch wood structural panels.
4. One thickness of $\frac{3}{4}$ -inch particleboard with joints backed by $\frac{3}{4}$ -inch particleboard.
5. $\frac{1}{2}$ inch gypsum board.
6. $\frac{1}{4}$ inch cement-based millboard.
7. Batts or blankets of mineral wool or glass fiber or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation installed as tested for this specific application.

R302.11.1.1 Batts or blankets of mineral or glass fiber.

Batts or blankets of mineral or glass fiber or other *approved* nonrigid materials shall be permitted for compliance with the 10-foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs.

R302.11.1.2 Unfaced fiberglass.

Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a minimum height of 16 inches measured vertically. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction.