

2003 International Residential Code Overview of Changes

The *International Residential Code (IRC)* is a stand-alone code that regulates the construction of detached one-and two-family dwellings and townhouses not more than three stories in height. There have been significant changes made to the IRC since the initial 2000 edition. This overview is intended to highlight many of the changes contained in the 2003 IRC.

Building

- R105.2 - Work exempt from permits (added attached window awnings to list of items not requiring a permit)
- R202 – Definitions (Several new definitions added)
- R301.1.1 - Alternative provisions (new text allows engineered design of framing systems in accordance with the *International Building Code*)
- R301.3 - Story height (New section defines story height and wall height limits based on the construction materials. Provides for an engineered design if prescribed height limits are exceeded)
- R303.4.1 - Intake openings (new section requires mechanical or gravity outside air intake openings to be located a minimum of 10 feet from sources of hazardous or noxious contaminant or 2 feet below the source)
- R303.8 – Required heating (new text prohibits the use of portable space heaters to achieve compliance)
- R304.2 - Other rooms (kitchens are now listed as an exception to the 70 square foot minimum room area requirement)
- R305 - Ceiling height (New exception added that allows a ceiling height of 6’-8” in bathrooms over fixtures. Also stipulates a minimum 30” x 30” space at showerheads.)
- R308.4 – Hazardous locations (Item number 11 added that requires safety glazing when the surface of the glass is less than 60 inches “above the nose of the tread” on stairways. Also, new exception added for glazing at stairways, landings and ramps meeting certain requirements.)
- R309.2 – Separation required (new requirement for garages with habitable rooms above them to be separated from the room with at least 5/8” type X gypsum board or equivalent)
- R311.4.3 - Landings at doors (includes two rewritten exceptions)
 - Exterior stairways with two or fewer risers are exempt from the landing requirement. This exception does not apply to the required exit door.
 - The maximum 8 inch rise for thresholds at exterior door landings has been revised to 7 ¾ inches.
- R311.5.4 – Landings for stairways (limits each flight of stairs to a vertical rise of 12 feet between floor levels or landings)
- R311.5.6 - Handrails (requires handrails on at least one side of stairs with four or more risers - previously two or more risers)
- R311.5.6.3 – Handrail grip size (handrail grip size requirements completely rewritten to include classifications of type I and type II handrails)
- R312.2 - Guard opening limitations (Ladder effect restriction removed. On open-sided stairs, opening restriction changed from 4 inches to 4-3/8 inches.)
- R506.2.3 - Vapor retarder (vapor barrier requirement under concrete slab-on-grade construction deleted for garages)
- R602.6.1- Drilling and notching of top plate (attachment method has changed for the required tie on a top plate notched or cut more than 50 % - from six 16d nails to eight 16d nails)
- R602.10 - Wall bracing (The IRC provides eight ways to build a braced wall panel – ranging in width from 4 to 8 feet. The Code also requires at least two braced wall panels along each braced wall line – usually located at each end of the wall. The code provides for an “alternate braced wall panel” option that allows a 32” braced wall but requires additional anchors and structural sheathing. Additionally, the code contains a “continuous structural panel sheathing” option that allows wall segments as narrow as 24” on either side of garage door openings meeting certain conditions. There are also several engineered solutions that provide for narrow wall bracing methods, some as narrow as 12”)

- R703.6.2.1 - Weep screeds (new section added requiring a weep screed along the bottom of an exterior plaster wall to permit moisture to escape to the exterior)
- R703.7.4.1 – Size and spacing (new text requires brick ties be spaced not more than 24 inches on center horizontally **and** vertically)
- R703.10 - Fiber cement siding (new section added that addresses the installation of fiber cement siding)
- R802.10.5 - Truss to wall connection (requires roof truss to wall connectors capable of resisting a minimum uplift of 175 pounds)
- R1001.6.1- Spark arresters (new section addresses the installation of spark arrestors on masonry chimneys)

Energy

- N1102.1.11- Recessed lighting fixtures (prescriptive requirements for recessed lighting fixtures - formally included in energy code - now included in residential code for consistency)

Mechanical

- M1301.1.1 Flood-resistant installation (establishes requirements for mechanical installations in areas prone to flooding)
- M1307.4 - Hydrogen generating and refueling operations (new section added to minimize potential explosions by limiting the source of hydrogen gas and by requiring adequate ventilation to dissipate leakage)
- M1308.2 - Protection against physical damage (new section requires protection of piping in certain cases to minimize the possibility of damage from nails, screws, or other fasteners)
- M1411.3.2 – Drain pipe materials and size (new section addresses the piping material and size requirements for the condensate disposal system)
- M1501.1- General (new exception recognizes “ductless” clothes dryers)
- M1501.3 Length limitation (new exception allows increased duct length when clothes dryer booster fan is installed)
- M1506 – Mechanical ventilation (new section addresses ventilation equipment installed in toilet rooms and bathrooms)
- M1703.3 – Single opening or duct (deleted provisions for single opening for combustion air)
- M1903 - Stationary fuel cell power plants (new section requires stationary fuel cell power plants to be installed in accordance with the manufacture’s installation instructions)

Fuel Gas

- G2405.2 - Alterations to trusses (requires written approval of a registered design professional before a truss member is cut, drilled, notched, etc.).
- G2408.1 – General (new text clarifies that the product manufacture’s installation instructions prevail in the event that a code provision is less strict on the same subject, in other words, that which provides the greatest level of safety is the ruling provision)
- G2408.4 - Clearances from grade (requires appliances and equipment installed at grade level to be supported or suspended at least 6 inches above grade)
- G2411.1 - Gas pipe bonding (New text added to make IRC consistent with requirements of the National Electrical Code. Gas piping is automatically bonded by its connection to grounded appliances.)
- G2417.1.2 – Repairs and additions (allows minor repairs or additions on gas lines to be tested with a leak-detecting fluid)
- G2439.5 Clothes dryer ducts (new text requires clothes dryer ducts to be constructed of metal)

Plumbing

- P2602.2 – Flood-resistant installation (new requirements for private sewer disposal systems installed in areas prone to flooding)
- P2803.6.1 - Requirements of discharge pipe (new text allows water heater T&P relief valve to discharge to floor)
- P2903.9.3 - Valve requirements (revised to require individual water shutoff valves for all fixtures other than bathtubs and showers – previously required for water closets only)
- P2904.4.1 – Water service installation (new exception allows the water service pipe to be sleeved where it crosses a sewer pipe)

Swimming pools, spas and hot tubs

AG105 – Barrier requirements (a change allows an increase - from 1.25" square to 2.25" square - in maximum mesh size for chain link fences that form the pool barrier).

AG106 – Entrapment protection for swimming pool and spa suction outlets – (new section covers suction fittings, atmospheric vacuum relief systems, and dual drain separation)