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## **MICHIGAN 2009 RESIDENTIAL CODE INFORMATION SHEET**

The following represents frequently asked questions and/or violations of the 2009 Michigan Residential Code. The code book contains 830 pages. Other code sections may apply. This list is a summary and is not intended to be all inclusive but as an aid to assist in the building process. **Building, Electrical, Mechanical and Plumbing work must comply with the code.** Any omissions or failure to identify violations during plan review does not permit violations of the code.

**R109.1.4 Masonry inspection** require prior to installation of masonry veneer, after installation of base course of flashing and installation of weather resistant sheathing paper per 703.2.

**R303.6 all interior and exterior stairways** shall be illuminated including stairs, landings and treads.

**R308.4 Safety Glazing** is required: in all doors, glazing within 24" of door, glazing enclosing/in building walls enclosing tub/showers, glass over 9 square feet of area w/bottom edge within 18" of floor and top edge greater than 36" above floor and walking surface within 36", glazing within 60" horizontally of the bottom tread of a stairway and the glass is less than 60" above the nose of the tread.

**R302.6 Garage** is required to be separated from the residence and its attic area with not less than ½" gypsum board applied to the garage side and supporting walls, 5/8" Type X on ceiling of garage with living space above. **302.5.1** Doors are required to be a minimum of 3/8" thick-solid wood or honeycomb steel or 20-minute fire-rated door.

**R302.7 Under stair protection** is required in enclosed accessible space under stairs with walls and under stair surface protected with a minimum ½" drywall.

**R310 Emergency escape and rescue** openings are required in all basements with habitable space and in every sleeping room. Openings shall have; minimum opening of 5.7 square feet (operational from inside without use of keys or tools, maximum sill height of 44" from finished floor, minimum of 20" opening width, minimum 24" opening height. Windows required below grade must have a minimum 36" window well (44" below grade requires a ladder).

**311.3 Landings** are required in each side of an exterior swinging door, minimum of 36" 3.11.8.2 Top and bottom of all ramps and where ramps change direction.

**311.7 Stairways** Minimum width 36", Maximum riser height 8 ¼" (max. variance 3/8"), Minimum tread depth 9" (max. variance 3/8"), Minimum nosing ¾" – maximum 1 ¼" on stairs with solid risers (open risers are permitted provided the opening does not permit the passage of a 4" diameter sphere). Minimum 6'8" head room measured vertically from a sloped plane from floor surface to floor surface.

**R311.7.4.2 Stairs with winders** are permitted provided the tread on the narrowest side 12" out is not less than 10" wide and the minimum width of any tread are not less than 6".

**R311.7.7 Handrails** are required on all stairs with four or more risers located between 34"-38" height measured vertically from nosing. Ends shall be returned to wall or terminate in newel post or safety terminal. Clear space between wall and handrail shall not be less than 1 1/2" minimum-2" maximum or other equivalent grasping surface, edges with minimum 1/8" radius.

**R312 Guards** required on any walking surface over 30" from adjacent floor or grade, minimum 36" in height. Open sides of stairs with rise of 30" or more shall have guards minimum of 34" in height measured vertically from nosing. Openings in required guards shall not permit passage of a 4" sphere.

**R314 Smoke detectors** are required in each sleeping room, immediate vicinity outside the bedrooms, one on each story of dwelling including the basement. No alarms are required in crawl spaces and uninhabitable attics. All alarms shall be interconnected with battery backup. (Interior alterations and additions require the dwelling unit to comply with this section).

**R315 Carbon monoxide alarms** are required to be installed outside of each sleeping area in immediate vicinity of bedrooms (interior alteration and additions requires the dwelling unit to comply with 315.1 section).

**R316 Foam plastic** must have a thermal barrier from the interior of the building, including attics and crawl spaces. Foam plastic used as siding backer permits a maximum thickness of 1/2".

**R302.10.1 Insulation vapor barrier** is required in all exterior walls, floors, and roof/ceilings.

R401.3 Drainage of surface water shall be diverted to storm sewer conveyance or other approved point of collection that does not create a hazard. Grande shall fall a minimum 6" within the first 10 feet from foundation.

**R403.1.4 Footing Depth** of any structure over 400 square feet will be a minimum of 42".

**R403.1.6 Foundation anchorage** minimum two bolts per plate section, minimum 1/2" bolts or listed anchor straps spaced a minimum of 6' on center and located within 12" from all ends of bottom plates, embedded a minimum of 7" in the masonry. Anchor straps spaced as required to provide equivalent anchorage to 1/2" – inch bolts.

**R405.1 Foundation perimeter drainage** systems shall be placed on a minimum 2" of washed gravel or crushed rock. Drain tile with an approved filter membrane material shall be covered with at least 6" of stone.

**R406.1 Masonry walls** will have not less than 3/4" Portland cement parging applied to the exterior of the wall. Parging will be damp-proofed with an approved method. Some locations may be required to be waterproofed depending on the water table in that area.

**R408.4 Crawl space access** opening through a floor shall be a minimum of 18"x24", through a perimeter wall shall be a minimum of 16"x24".

**R502.2.2 Decks** attached to exterior walls shall be attached with corrosion resistant fasteners and positively anchored (bolted).

**R502.3.3 Cantilever** minimum shall not exceed nominal depth of joist. Back span ratio 3:1.

**R501.8.2 Engineered wood products** (Trusses, LVL's, I-Joists, etc) shall not have cuts notches or holes drilled without documentation of the effects on the design.

**R502.11 Wood trusses** shall be installed to manufacturer's instructions/design drawings and truss design drawings are required on job site and made available for inspection.

**802.10.5 Trusses** must be connected to wall plates to resistance 175lbs of uplift installed to manufacturer's specification.

**R506.1 Concrete floors** require minimum 6mil Vapor Retarder with joints lapped not less than 6" between the base course and concrete. Vapor Retarder is required in all basements, attached garages, and any detached heated accessory structures.

**R602.6 Drilling or notching Stud walls** may not have holes drilled within 5/8" of edge and may not be cut or notched to a depth exceeding 25% of its width.

**R602.6.1 Drilling or notching top plate** exceeding 50% requires a galvanized metal tie .054" thick – 1.5" wide fastened to each side of opening with not less than eight 10d nails.

**R302.11 Fire blocking** required in concealed spaces at 10-foot intervals both horizontal and vertical.

**R703.2 Weather resistant sheathing paper** is required to be installed horizontally lapped over the lower course a minimum of 2" and joints lapped a minimum of 6".

**R905.2.7.1 Ice protection** required on all eave edges to a point at least 24" inside the exterior wall line of the building. Ice/Water shield or two layers of underlayment cemented.

**AE101 HUD approved manufactured homes** placed on private sites are required to comply with Appendix E of 2009 Michigan Residential Code.

**AG101 Swimming pools, Spas, and Hot tubs** shall be provided with a minimum barrier of 48" high, with gates/access latches/alarms to Appendix J, exception Spas/hot tubs with a safety cover which complies with ASTM F 1346.

**E3902.11 Arc-fault protection**, all branch circuits that supply 125-volt, single-phase, 15 and 20 amp. Outlets installed in dwelling unit bedrooms shall be protected by arc-fault circuit interrupter listed to provide protection for the entire branch circuit.