



City of Wayzata
Building Inspection Department

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Residential Design Criteria

Construction of one and two family dwellings in the City of Wayzata must be in accordance with the current Minnesota State Building Code (SBC), which includes the 2006 International Residential Code (IRC); and Wayzata Zoning Ordinance. This handout is a summary of design criteria that apply to one and two family dwellings; it is not a complete list of requirements. The permit holder must be familiar with applicable codes and ordinances and ensure compliance with all regulations. When differences occur between provisions of codes or ordinances the more restrictive requirements apply.

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA - IRC 301, SBC 1309.0301

Ground Snow Load	50 lbs psf
Roof Snow Load	35 lbs psf
Wind Speed	90 mph @ 3 second
Wind Exposure Category	Determined on a site specific basis (B or C)
Seismic Design Category	Not applicable
Frost depth	42 inches
Winter Design Temperature	-15 degrees F
Weathering	Severe

EXTERIOR WALL LOCATION - IRC 302, SBC 1309.0302

Exterior wall elements	fire separation distance	minimum rating
Walls fire-resistive rated	<5 ft	1 hr both sides
Walls not fire-resistive	>5 ft	0 hr
Projections - not allowed	<2 ft	na
Projections fire-resistive rated	2 -5 ft	1 hr
Projections not fire-resistive	>5 ft	0 hr
Openings - not allowed	<3 ft	na
Openings - 25% of wall area	3 -5 ft	0 hr
Openings - unlimited	>5 ft	0 hr
Penetrations	< 5ft	R317.3
Penetrations - unlimited	>5 ft	0 hr

MINIMUM DESIGN LIVE LOADS - IRC 301

Exterior balconies	60 lbs psf
Decks	40 lbs psf
Fire escapes	40 lbs psf
Passenger vehicle garages	50 lbs psf, except elevated garage floors shall support 2000 lbs over a 20 sq. in. area
Unfinished attics without storage	10 lbs psf
Unfinished attics with storage	20 lbs psf
Rooms other than sleeping rooms	40 lbs psf
Sleeping rooms	30 lbs psf
Stairs	40 psf or 300 lbs concentrated over 4 sq. in., whichever produces greater stresses
Guardrails and handrails	200 lbs in a concentrated load applied in any direction at any point along the top
Rafter uplift	175 lbs per connector (802.10.5)

ALLOWABLE DEFLECTION OF STRUCTURAL MEMEBERS - IRC 301

Rafters > 3/12 slope, no ceiling	L/180
Interior walls & ceilings	L/180
Floors & plastered ceilings	L/360
All other structural members	L/240
Exterior wall with stucco	L/360
Exterior wall with brittle finish	L/240
Exterior walls with flexible finish	L/120

ENERGY CODE REQUIREMENTS - IRC 1100, SBC 1322.1100

Insulation Certificate and Passive Radon system required for new buildings

	U-Factor	R-Value	Notes
Window fenestration	0.35		Total weighted area of exterior window and doors
Skylight	0.60		Not included in weighted area
Ceiling	0.026	38	R-30 vaulted ceiling max 500 sq ft
Wall - wood framed	0.060	19 or 13+5	R-13 cavity plus R-5 sheathing
Mass wall	0.077	15	Log type construction
Floor	0.033	30	Alt - insulation to fill framing cavity, R-19 min
Foundation wall	0.10	10	Trade-off allowed
Rim joist	0.10	10	
Crawl space wall	0.10	10	
Slab	0.10	10	Insulate 42 inches below grade, add R-5 to slab edge
Basement insulation	0.10	10	See requirements for sealing, vapor barrier, trade-off

U-Factor = Maximum allowable

R-Value = Minimum requirement

Fenestration is defined as a product that fills an opening in a building envelope such as windows, doors, skylights, etc., designed to permit the passage of air, light, vehicles, or people.

PLAN REVIEW SUBMITTALS

Two complete sets are required for plans review, plans must reflect in detail requirements of any Development Agreement or Resolution

- Permit application form
- Architectural plans, Plans shall include typical wall sections, elevations, floor plans, window sizes, door sizes, header/beam/girder sizes, joist size/spacing/species, and any other details necessary for plan review.
- Structural plans
- Heat loss & gain worksheet
- Grading & erosion control plans
- Approved water, sewer, storm water and utility plans
- Survey by a Minnesota registered surveyor; include: proposed impervious surface and building coverage tabulations, topography contours at two foot intervals, structures with dimensions, setbacks, property lines, lot size, driveway and sidewalks; elevation of top of curb or street elevations; elevation of foundation, garage floor, first floor and lowest floor
- Tree inventory and removal plan