BUILDING SERVICES



Doing it right!

STAIRS - HOUSE

ONTARIO BUILDING CODE

The Ontario Building Code requires that all stairs meet specific requirements related to the rise, run, and width. This guide does not address spiral stairs or tapered treads. Additional OBC requirements apply to these configurations.

Steps

Steps are required to be constructed with equal rise and run throughout each flight of stairs measured from the ground at the bottom of the stairs to the top of an intermediate landing or the top of the walking surface. The top step and bottom step are usually the most problematic due to grading changes.

Stairs are required to be a minimum 34 inches wide. A flight of stairs must be provided with a landing if the change in height exceeds 12 feet 1 inch.

Each step within a flight of stairs may have up to 1 inch of nosing, but must be uniform throughout.

The table below lists the minimum and maximum dimensions.

	All Steps		Rectangular Treads	
Stair Type	Rise (inches)		Run (inches)	
	Min.	Max.	Min.	Max.
Private*	4 ¹⁵ / ₁₆ "	7 ⁷ /8"	10 ¹ / ₁₆ "	14"
Public**	4 ¹⁵ / ₁₆ "	7 1/16"	11"	No Limit

^{*} Private Stairs – interior stairs within and exterior stairs serving a house or individual dwelling unit, and exteriors stairs serving a garage that serves a house or single dwelling unit

Guards and Handrails

A guard is required on the stair where the stair is higher than 23 $^5/_8$ inches. The guard may also serve as a handrail provided both guard & handrail OBC requirements are met. Guard pickets cannot be spaced more than 3 $^{15}/_{16}$ inches apart. No horizontal members are permitted to be attached to the guard between 5 $^1/_2$ inches and 35 $^7/_{16}$ inches that could facilitate climbing.

Interior stairs with 3 or more risers and exterior stairs with 4 or more risers serving a house require a handrail. Handrails must be located at a height between 34 $^{1}/_{16}$ inches and 42 $^{1}/_{8}$ inches and must be graspable their entire length. On stairs serving a house, only one side of the stair is required to have a handrail.



^{**} Public Stairs – all other stairs not considered to be service stairs or private stairs

SECTION

GUARDS CONSTRUCTED PER SB-7 OF THE O.B.C.

3/4" = 1'-0"



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GALVANIZED HANGER CONNECTION 36" STAIR GUARD REQUIRED ON STAIRS WITH FINISHED DECK FOR RAILING TO GUARD POST HEIGHT OF 24" OR HIGHER. 2x6 TOP RAIL MUST BE CONTINUOUSLY GRASPABLE STAIR HANDRAIL REQUIRED ON STAIRS WITH 3 OR MORE RISERS, (HEIGHT 34 1/16" MIN. - 42 1/8" MAX.) STRINGERS MUST BE SUPPORTED AND SECURED AT THE TOP AND BOTTOM (MAX. SPACING 35 1/2"). MID-POINT SUPPORT IS NEEDED WHEN STRINGERS ARE CUT TO ACCEPT TREADS AND ARE GREATHER THAN 6'-0" IN LENGTH NOSING GAP WOODEN STRINGERS TO BE TREATED FOR GROUND CONTACT 3 15/16" 10 1/16" MAX. MAX. MIN. **STAIR CONFIGURATIONS** RISE: MAX= 7 7/8", MIN= 4 15/16" RUN: MAX= 14". MIN= 10 1/16" WIDTH: MIN= 34" (MEASURED BETWEEN INTERIOR FACES OF GUARDS) 2X2 PICKETS ATTACHED WITH TWO SCREWS AT TOP AND BOTTOM, SPACED SO GAPS BETWEEN ٥ PICKETS ARE A MAXIMUM OF 3 15/16". RISE 7 7/8" MAX MINIMUM 4x4 POST REQUIRED AT TOP AND BOTTOM OF STAIR GUARD. MAXIMUM GAP IN RISER SO NO OBJECTS LARGER THAN 4" CAN FIT THROUGH OPENING 15/16 DROPPED FRAMING NOSING_ MEMBER INTO WHICH MAXIMUM NOSING FOR ALL TREADS INCLUDING EACH STRINGER IS 1" | 0 | | 0 | TOP AND BOTTOM **END NAILED USING 3"** MAX. **GALVANIZED NAILS** WHEN 5/4" TREADS ARE BEING USED THE STRINGERS MUST NOT BE SPACED MORE THAN 16" ON CENTRE. MID-POINT SUPPORT IS NEEDED WHEN POURED CONCRETE PAD OR CONCRETE PAVERS STRINGERS ARE CUT TO ACCEPT TREADS SOLID COMPACTED CHIPS AND DUST AND SPAN GREATER THAN 6'-0' STAIR SECTION