

## Appendix B

# Specifications for Job-Made Ladders

Ladders that comply with the specifications in Table B.1 support a vertical load of at least 200 lb. applied at the center of any step. If the ladder is to be used in such a way that greater stresses will be put on it, it should be constructed of such material that it will support the load without overstressing the materials.

Rungs of job-made ladders are referred to as cleats. A single-cleat ladder is wide enough for a single person to use (Figure B.1).

A *double-cleat ladder* must be installed when two-way traffic is expected or when the ladder is the sole means of access to a work area for 25 employees or more. Single-cleat ladders shall not exceed 30 ft. in length (from the base to the top landing), and double-cleat ladders shall not exceed 24 ft. If the length required exceeds this maximum length, two or more separate ladders shall be used, offset with a platform between the ladders. Guardrails and toeboards shall be erected on the exposed sides of the platforms.

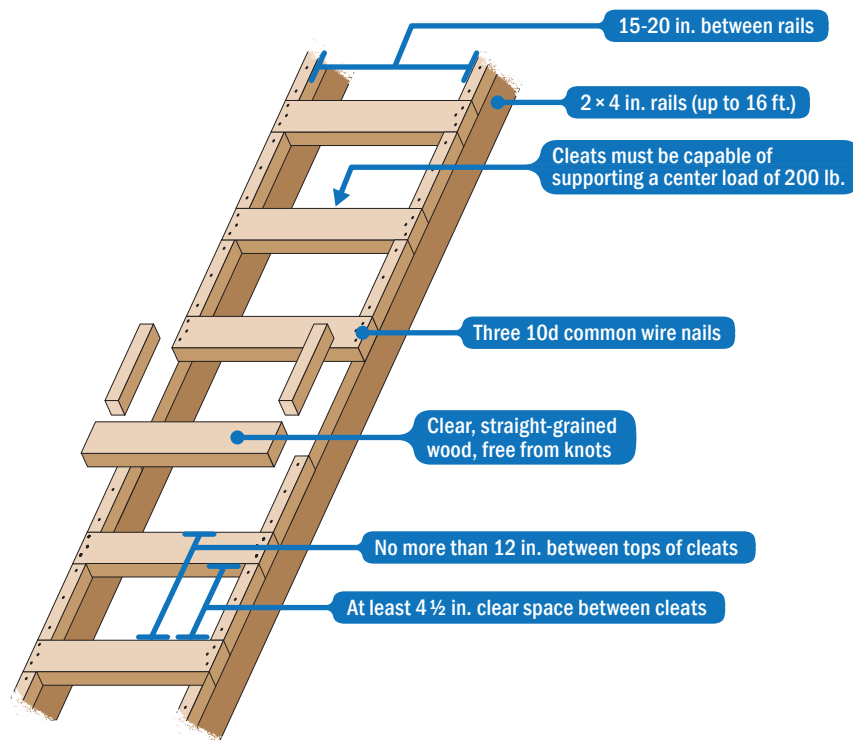


Figure B.1. Job-made ladder specifications.

**Table B.1** Specifications for Job-Made Wooden Ladders

**Side Rails (Single Cleat Ladders)**

Ladders up to 16 ft. in length	2-inch by 4-inch lumber for side rails
Ladders 16 to 30 ft. in length	3-inch by 6-inch lumber for side rails
Material	Dressed Douglas fir select lumber, or equivalent
Surface	Free from sharp edges and splinters
Knots	Shall not have knots, except occasional ones less than ½ inch in diameter that appears only on the wide face and is at least ½ inch back from either edge.
Splices	If splicing of side rails is necessary to attain the required length, the splice shall develop the full strength of a continuous side rail of the same length.
Parallel/flared rails	Side rails shall be parallel or flared top to bottom by not more than one-quarter of an inch for each 2-ft of length

**Cleats (Rungs)**

Knots	Wood cleats shall be clear, straight-grained and absolutely free from knots of any size that appear in the narrow face. Knots appearing in the wide faces of cleats shall not exceed a diameter of ¼ in.
Spacing	No farther apart than 12 in. measured from the tops of cleats, uniformly spaced within ¼-inch tolerance. At least 4½ in. unobstructed space above each cleat.
Width	At least 15 in., but not more than 20 in., between rails at the top of the ladder.
Cleat support at side rails	Inset into the edges of the side rails ½ in., or filler blocks shall be used on the rails between the cleats.
Fasteners	The cleats shall be secured to each rail with three 10d common wire nails or other fasteners of equivalent strength. Double-head nails shall not be used for ladder construction.

**Side Rails (Double-Cleat Ladders)**

Up to 12 ft. in length	2-inch by 4-inch lumber for side rails
12 to 24 ft. in length	3-inch by 6-inch lumber for side rails