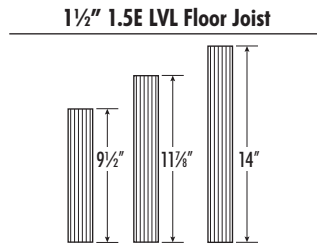


LVL JOIST SERIES 1½" 1.5E RESIDENTIAL FLOOR SPANS



Meets 2012 IRC R 501.3 & 2015 IRC 302.13
Fire Protection Requirements

L/360 ALLOWABLE RESIDENTIAL FLOOR SPANS—40 PSF LIVE LOAD AND 15 PSF DEAD LOAD

Grade	Size	Simple Span			Multiple Span		
		12" o.c.	16" o.c.	19.2" o.c.	12" o.c.	16" o.c.	19.2" o.c.
1.5E	1½" x 9½"	19'-3"	17'-9"	16'-11"	21'-6"	18'-9"	17'-1"
	1½" x 11⅞"	23'-9"	21'-11"	20'-10"	26'-7"	23'-0"	20'-0"
	1½" x 14"	27'-9"	25'-7"	[24'-3"]	30'-11"	24'-1"	20'-0"

L/480 ALLOWABLE RESIDENTIAL FLOOR SPANS—40 PSF LIVE LOAD AND 15 PSF DEAD LOAD

Grade	Size	Simple Span			Multiple Span		
		12" o.c.	16" o.c.	19.2" o.c.	12" o.c.	16" o.c.	19.2" o.c.
1.5E	1½" x 9½"	17'-5"	16'-2"	15'-4"	19'-6"	18'-1"	17'-1"
	1½" x 11⅞"	21'-7"	19'-11"	18'-11"	24'-2"	22'-3"	20'-0"
	1½" x 14"	25'-2"	23'-3"	[22'-0"]	28'-3"	24'-1"	20'-0"

Notes:

- Table values apply to uniformly loaded, residential floor joists.
- Span is measured from face to inside edge of bearing.
- Deflection is limited to L/240 at total load and L/480 or L/360 at live load.
- Table values are based on glued and nailed sheathing panels (19/32"). Use an ASTM D3498 adhesive in accordance with the manufacturer's recommendations.
- Provide at least 1½" of bearing length at end supports, 2" for spans in [brackets], and 3½" at intermediate supports.
- Provide lateral restraint at supports (e.g. full-depth solid blocking, rim board) and along the compression edge of each joist (e.g. floor sheathing).
- Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (e.g. commercial floors, different bearing conditions, concentrated loads) or for multiple span joists if the length of any span is less than half the length of an adjacent span.
- 14" multiple-span joists require full-depth, solid blocking at ½-points along each span.
- Table values are based on design properties adjusted to account for the Allowable Holes listed below.

Allowable Holes:

- Round holes only. Holes must be drilled with a bit or cut with a hole saw.
- Maximum diameter = ⅓ of the beam depth
- Maximum 2 holes per span
- Minimum clearance from edge of hole to:
 - edge of adjacent hole—2 times the diameter of the larger hole
 - edge of beam—⅓ of the beam depth
 - face of support—6 inches

1.5E LVL Reference Design Values⁽¹⁾

Modulus of Elasticity, E = 1500000 psi⁽²⁾
 Bending (beam), F_b = 2250 psi⁽³⁾⁽⁴⁾
 Horizontal Shear (beam), F_v = 230 psi
 Compression Perpendicular to Grain (beam), F_{c⊥} = 750 psi⁽²⁾

- Values apply to dry service conditions
- Do not adjust for load duration
- Adjust by (12/d)^{1/5}, where d is the depth of the member [inches]
- Adjust by 1.04 for repetitive members as defined in the ANSI/AWC NDS

HOW TO USE FLOOR SPAN TABLES

- Select Simple Span or Continuous Span, as required.
- Find a span that meets or exceeds the required clear span.
- Read the corresponding joist grade, size and spacing.

Caution: For floor systems that require both simple span and continuous span joists, it is a good idea to check both before selecting a joist. Some conditions are controlled by continuous span rather than simple span.

