

I-Joist Allowable Formwork Spans

Deflection Limited to L/360 or ¼" Max.

| Slab Thickness | Cantilever Length | Joist Spacing | CFI-77 | | | | | | CFI-90 | | | | | |
|----------------|-------------------------|---------------|-------------|--------|---------|---------|---------|---------|-------------|---------|--------|---------|---------|---------|
| | | | Joist Depth | | | | | | Joist Depth | | | | | |
| | | | 9½" | 11½" | 14" | 16" | 18" | 20" | 9½" | 11½" | 14" | 16" | 18" | 20" |
| 6" | Less Than Joist Depth | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| | | 19.2" o.c. | 11'-4" | 13'-0" | 14'-3" | 15'-5" | 15'-7" | 15'-3" | 12'-6" | 14'-3" | 15'-7" | 16'-10" | 17'-1" | 16'-9" |
| | From Joist Depth to 24" | 24" o.c. | 10'-6" | 12'-2" | 12'-6" | 12'-2" | 11'-10" | 11'-6" | 10'-6" | 13'-4" | 13'-8" | 13'-4" | 13'-0" | 12'-8" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 6½" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 9'-11" | 12'-0" | 11'-10" | 11'-6" | 11'-2" | 10'-10" | 9'-11" | 13'-1" | 13'-0" | 12'-8" | 12'-4" | 12'-0" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 7" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 9'-5" | 11'-7" | 11'-3" | 10'-11" | 10'-7" | 10'-3" | 9'-5" | 12'-8" | 12'-4" | 12'-0" | 11'-8" | 11'-4" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 7½" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 10'-4" | 11'-9" | 12'-11" | 13'-11" | 14'-11" | 15'-9" | 12'-10" | 14'-1" | 15'-3" | 16'-3" | 16'-3" | 16'-3" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 8" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 10'-4" | 11'-9" | 12'-11" | 13'-11" | 14'-11" | 15'-9" | 12'-10" | 14'-1" | 15'-3" | 16'-3" | 16'-3" | 16'-3" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 9" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 9'-5" | 11'-7" | 11'-3" | 10'-11" | 10'-7" | 10'-3" | 9'-5" | 12'-8" | 12'-4" | 12'-0" | 11'-8" | 11'-4" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 10" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 7'-2" | 8'-10" | 8'-5" | 8'-1" | 7'-9" | 7'-5" | 7'-2" | 9'-8" | 9'-8" | 9'-0" | 8'-8" | 8'-4" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |
| 12" | Less Than Joist Depth | 12" o.c. | 11'-9" | 13'-4" | 14'-8" | 15'-10" | 16'-11" | 17'-11" | 12'-10" | 14'-8" | 16'-1" | 17'-4" | 18'-6" | 19'-8" |
| | | 16" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | | 19.2" o.c. | 11'-2" | 12'-8" | 14'-0" | 15'-1" | 14'-9" | 14'-5" | 12'-3" | 13'-11" | 15'-4" | 16'-6" | 16'-2" | 15'-10" |
| | From Joist Depth to 24" | 24" o.c. | 6'-1" | 7'-6" | 7'-2" | 6'-10" | 6'-6" | 6'-2" | 6'-1" | 8'-3" | 7'-11" | 7'-7" | 7'-3" | 6'-11" |
| | | 12" o.c. | 12'-11" | 14'-8" | 16'-2" | 17'-5" | 18'-8" | 19'-9" | 14'-2" | 16'-2" | 17'-9" | 19'-1" | 20'-5" | 21'-8" |
| | | 16" o.c. | 11'-11" | 13'-7" | 15'-0" | 16'-2" | 17'-3" | 18'-4" | 13'-1" | 14'-11" | 16'-5" | 17'-8" | 18'-11" | 20'-0" |

Notes:

- This table applies to uniformly-loaded, simple-span joists with no cantilevers, or with equal cantilevers (24 inches maximum) at each end.
- Span is measured from center to center of supports. Cantilevers are measured from center of support to end of cantilever.
- This table is based on 150 pcf concrete slabs, 50 psf live load, and 8 psf formwork dead load.
- This table is based on joist design values adjusted by $C_M = 0.90$ for unprotected use and by $C_D = 1.25$ for construction load duration.
- Deflection under concrete plus dead load is limited to the lesser of ¼ inch or span/360.
- Provide at least 3½ inches of bearing length at both supports.
- Provide lateral restraint at supports (Examples: blocking panels, plywood rim) and along the compression flange of each joist (Example: plywood nailed at least every 24 inches along each joist). PANELIZED SYSTEMS ONLY. NO HAND-SETTING.

- Use sizing software or consult a professional engineer to analyze conditions outside the scope of this table (Example: continuous spans, longer cantilevers, non-uniform loads, different uniform loads).

How To Use These Tables:

- Determine span length (center to center of supports), cantilever length (center of support to end of cantilever), and slab thickness.
- Find a table that matches the slab thickness.
- Find combinations of joist depth and spacing that meet the span requirement.
- Eliminate combinations that do not meet short or long cantilever definitions in the table.
- Choose from remaining combinations.