

I-JOIST ALLOWABLE FORMWORK SPANS

DEFLECTION LIMITED TO L/360 OR 1/4" MAX.

Slab	Conditions	CFI-77						CFI-90						
		9 1/2"	11 7/8"	14"	16"	18"	20"	9 1/2"	11 7/8"	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"
		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"
	From Joist Depth to 24"	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"
		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"
6 1/2"	Less Than Joist Depth	12" o.c.	12'-8"	14'-5"	15'-10"	17'-1"	18'-3"	19'-5"	13'-11"	15'-10"	17'-5"	18'-9"	20'-0"	21'-3"
		16" o.c.	11'-9"	13'-4"	14'-8"	15'-10"	16'-11"	18'-0"	12'-10"	14'-8"	16'-1"	17'-4"	18'-6"	19'-8"
		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"
		24" o.c.	9'-11"	12'-0"	11'-10"	11'-6"	11'-2"	10'-10"	9'-11"	13'-1"	13'-0"	12'-4"	12'-4"	12'-0"
	From Joist Depth to 24"	12" o.c.	12'-8"	14'-5"	15'-10"	17'-1"	18'-3"	19'-5"	13'-11"	15'-10"	17'-5"	18'-9"	20'-0"	21'-3"
		16" o.c.	11'-9"	13'-4"	14'-8"	15'-10"	16'-11"	18'-0"	12'-10"	14'-8"	16'-1"	17'-4"	18'-6"	19'-8"
		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"
		24" o.c.	9'-11"	12'-0"	11'-10"	11'-6"	11'-2"	10'-10"	9'-11"	13'-1"	13'-0"	12'-4"	12'-4"	12'-0"
7"	Less Than Joist Depth	12" o.c.	12'-5"	14'-2"	15'-7"	16'-10"	18'-0"	19'-1"	13'-8"	15'-7"	17'-1"	18'-5"	19'-8"	20'-10"
		16" o.c.	11'-6"	13'-1"	14'-5"	15'-7"	16'-7"	17'-8"	12'-8"	14'-5"	15'-9"	17'-0"	18'-2"	19'-3"
		19.2" o.c.	10'-11"	12'-6"	13'-9"	14'-10"	15'-10"	16'-9"	12'-0"	13'-8"	15'-0"	16'-2"	17'-3"	18'-4"
		24" o.c.	10'-4"	11'-9"	12'-11"	13'-11"	14'-11"	15'-9"	11'-0"	12'-10"	14'-1"	15'-3"	16'-3"	17'-3"
	From Joist Depth to 24"	12" o.c.	12'-5"	14'-2"	15'-7"	16'-10"	18'-0"	19'-1"	13'-8"	15'-7"	17'-1"	18'-5"	19'-8"	20'-10"
		16" o.c.	11'-6"	13'-1"	14'-5"	15'-7"	16'-7"	17'-8"	12'-8"	14'-5"	15'-9"	17'-0"	18'-2"	19'-3"
		19.2" o.c.	10'-11"	12'-6"	13'-9"	14'-10"	15'-10"	16'-9"	12'-0"	13'-8"	15'-0"	16'-2"	17'-3"	18'-4"
		24" o.c.	10'-4"	11'-9"	12'-11"	13'-11"	14'-11"	15'-9"	11'-0"	12'-10"	14'-1"	15'-3"	16'-3"	17'-3"
7 1/2"	Less Than Joist Depth	12" o.c.	12'-3"	13'-11"	15'-4"	16'-6"	17'-8"	18'-9"	13'-5"	15'-3"	16'-9"	18'-1"	19'-4"	20'-6"
		16" o.c.	11'-4"	12'-11"	14'-2"	15'-3"	16'-4"	17'-4"	12'-5"	14'-2"	15'-6"	16'-9"	17'-10"	18'-11"
		19.2" o.c.	10'-9"	12'-3"	13'-6"	14'-7"	15'-7"	16'-6"	11'-10"	13'-5"	14'-9"	15'-11"	17'-0"	18'-0"
		24" o.c.	10'-2"	11'-6"	12'-8"	13'-8"	14'-7"	15'-6"	10'-7"	12'-8"	13'-10"	14'-11"	15'-11"	16'-11"
	From Joist Depth to 24"	12" o.c.	12'-3"	13'-11"	15'-4"	16'-6"	17'-8"	18'-9"	13'-5"	15'-3"	16'-9"	18'-1"	19'-4"	20'-6"
		16" o.c.	11'-4"	12'-11"	14'-2"	15'-3"	16'-4"	17'-4"	12'-5"	14'-2"	15'-6"	16'-9"	17'-10"	18'-11"
		19.2" o.c.	10'-9"	12'-3"	13'-6"	14'-7"	15'-7"	16'-6"	11'-10"	13'-5"	14'-9"	15'-11"	17'-0"	18'-0"
		24" o.c.	10'-2"	11'-6"	12'-8"	13'-8"	14'-7"	15'-6"	10'-7"	12'-8"	13'-10"	14'-11"	15'-11"	16'-11"
8"	Less Than Joist Depth	12" o.c.	12'-0"	13'-8"	15'-1"	16'-3"	17'-5"	18'-5"	13'-3"	15'-0"	16'-6"	17'-10"	19'-0"	20'-2"
		16" o.c.	11'-2"	12'-8"	13'-11"	15'-1"	16'-1"	17'-1"	12'-3"	13'-11"	15'-3"	16'-5"	17'-7"	18'-8"
		19.2" o.c.	10'-7"	12'-1"	13'-3"	14'-4"	15'-4"	16'-3"	11'-7"	13'-3"	14'-6"	15'-8"	16'-8"	17'-8"
		24" o.c.	10'-0"	11'-4"	12'-6"	13'-6"	14'-5"	15'-2"	10'-2"	12'-5"	13'-8"	14'-8"	15'-8"	16'-8"
	From Joist Depth to 24"	12" o.c.	12'-0"	13'-8"	15'-1"	16'-3"	17'-5"	18'-5"	13'-3"	15'-0"	16'-6"	17'-10"	19'-0"	20'-2"
		16" o.c.	11'-2"	12'-8"	13'-11"	15'-1"	16'-1"	17'-1"	12'-3"	13'-11"	15'-3"	16'-5"	17'-7"	18'-8"
		19.2" o.c.	10'-7"	12'-1"	13'-3"	14'-4"	15'-4"	16'-3"	11'-7"	13'-3"	14'-6"	15'-8"	16'-8"	17'-8"
		24" o.c.	10'-0"	11'-4"	12'-6"	13'-6"	14'-5"	15'-2"	10'-2"	12'-5"	13'-8"	14'-8"	15'-8"	16'-8"
9"	Less Than Joist Depth	12" o.c.	11'-8"	13'-4"	14'-8"	15'-9"	16'-10"	17'-11"	12'-10"	14'-7"	16'-0"	17'-3"	18'-5"	19'-7"
		16" o.c.	10'-10"	12'-4"	13'-6"	14'-7"	14'-5"	14'-1"	11'-10"	13'-6"	14'-10"	16'-0"	15'-9"	15'-5"
		19.2" o.c.	10'-2"	11'-9"	12'-2"	11'-10"	11'-6"	11'-2"	10'-2"	12'-10"	13'-4"	13'-0"	12'-8"	12'-4"
		24" o.c.	7'-10"	9'-7"	9'-3"	8'-11"	8'-7"	8'-3"	7'-10"	10'-6"	10'-2"	9'-10"	9'-6"	9'-2"
	From Joist Depth to 24"	12" o.c.	11'-8"	13'-4"	14'-8"	15'-9"	16'-10"	17'-11"	12'-10"	14'-7"	16'-0"	17'-3"	18'-5"	19'-7"
		16" o.c.	10'-10"	12'-4"	13'-6"	14'-7"	14'-5"	14'-1"	11'-10"	13'-6"	14'-10"	16'-0"	15'-9"	15'-5"
		19.2" o.c.	10'-2"	11'-9"	12'-2"	11'-10"	11'-6"	11'-2"	10'-2"	12'-10"	13'-4"	13'-0"	12'-8"	12'-4"
		24" o.c.	7'-10"	9'-7"	9'-3"	8'-11"	8'-7"	8'-3"	7'-10"	10'-6"	10'-2"	9'-10"	9'-6"	9'-2"
10"	Less Than Joist Depth	12" o.c.	11'-4"	12'-11"	14'-3"	15'-4"	16'-5"	17'-5"	12'-6"	14'-2"	15'-7"	16'-10"	18'-0"	19'-0"
		16" o.c.	10'-6"	12'-0"	13'-2"	14'-3"	15'-2"	16'-1"	11'-6"	13'-1"	14'-5"	15'-6"	16'-7"	17'-7"
		19.2" o.c.	10'-0"	11'-5"	12'-6"	13'-6"	14'-5"	15'-4"	10'-11"	12'-6"	13'-8"	14'-9"	15'-9"	16'-8"
		24" o.c.	8'-9"	10'-9"	11'-9"	12'-6"	12'-6"	12'-6"	8'-9"	11'-9"	12'-10"	13'-10"	14'-9"	15'-8"
	From Joist Depth to 24"	12" o.c.	11'-4"	12'-11"	14'-3"	15'-4"	16'-5"	17'-5"	12'-6"	14'-2"	15'-7"	16'-10"	18'-0"	19'-0"
		16" o.c.	10'-6"	12'-0"	13'-2"	14'-3"	15'-2"	16'-1"	11'-6"	13'-1"	14'-5"	15'-6"	16'-7"	17'-7"
		19.2" o.c.	10'-0"	11'-5"	12'-6"	13'-6"	14'-5"	15'-4"	10'-11"	12'-6"	13'-8"	14'-9"	15'-9"	16'-8"
		24" o.c.	8'-9"	10'-9"	11'-9"	12'-6"	12'-6"	12'-6"	8'-9"	11'-9"	12'-10"	13'-10"	14'-9"	15'-8"
12"	Less Than Joist Depth	12" o.c.	10'-10"	12'-4"	13'-7"	14'-8"	15'-8"	16'-8"	11'-11"	13'-7"	14'-11"	16'-0"	17'-1"	18'-2"
		16" o.c.	10'-0"	11'-5"	12'-7"	13'-7"	14'-6"	15'-4"	11'-0"	12'-6"	13'-9"	14'-10"	15'-10"	16'-9"
		19.2" o.c.	9'-6"	10'-10"	11'-11"	12'-11"	13'-9"	14'-2"	9'-8"	11'-11"	13'-0"	14'-11"	15'-0"	15'-11"
		24" o.c.	7'-8"	10'-3"	10'-6"	10'-6"	10'-6"	10'-6"	7'-8"	10'-4"	11'-5"	12'-7"	13'-8"	14'-1"
	From Joist Depth to 24"	12" o.c.	10'-10"	12'-4"	13'-7"	14'-8"	15'-8"	16'-8"	11'-11"	13'-7"	14'-11"	16'-0"	17'-1"	18'-2"
		16" o.c.	10'-0"	11'-5"	12'-7"	13'-7"	14'-6"	15'-4"	11'-0"	12'-6"	13'-9"	14'-10"	15'-10"	16'-9"
		19.2" o.c.	9'-6"	10'-10"	11'-11"	12'-11"	13'-9"	14'-2"	9'-8"	11'-11"	13'-0"	14'-11"	15'-0"	15'-11"
		24" o.c.	7'-8"	10'-3"	10'-6"	10'-6"	10'-6"	10'-6"	7'-8"	10'-4"	11'-5"	12'-7"	13'-8"	14'-1"

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 1/4-inch or span/360.
- Provide at least 3 1/2 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.