

Will your deck be attached to the residence for support or will it be a "free standing" deck?

If attached, the deck band will be connected to the house band and your deck will be supported partially by the existing foundation of the house. Attached decks must be connected to the band or rim joist of the house by 5/8" inch galvanized through bolts. Also, the existing siding (except brick) which covers the house band must be renovated so that the deck band makes full contact with the house band. Metal flashing **must be** installed between the house and deck bands to prevent water from rotting the house band.

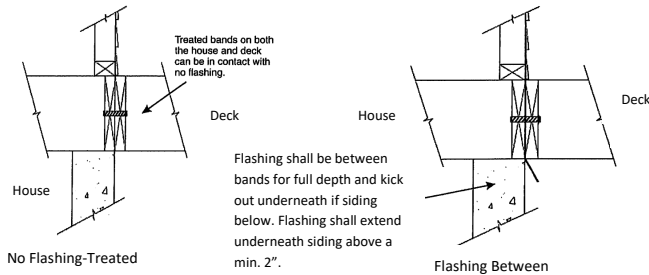
Fasteners	8' Max Joist Span	16' Max Joist Span

Bois with washers and 12d Common Galv. Nails	Treated bands on both the house and deck can be in contact with no flashing.	

Brick Veneer Structures

Fasteners	8' Max. Joist Span	16' Max Joist Span
5/8" Hot Dipped Galv. Bolts with Washers	1 @ 2'4" OC	1 @ 1'4" OC

*Minimum edge distance for bolts is 2 1/2 inches.
 *Nails must penetrate the supporting structure band a minimum of 1 1/2 inches.

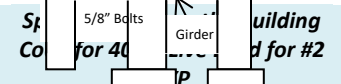


What distance will you span between supports?

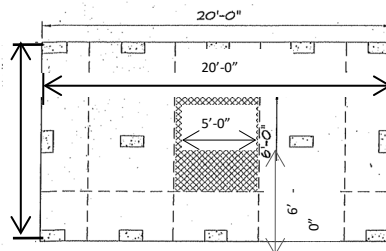
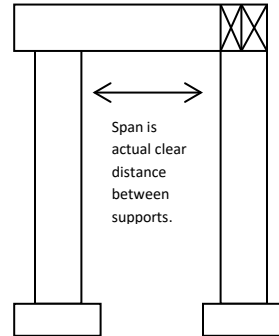
Your joists must be sized to carry 40 lbs. per sq. ft. live load. In some instances, a girder is used to help meet this design criteria and to allow use of similar individual floor joists.

Exterior Girder Clear Spans (Feet)

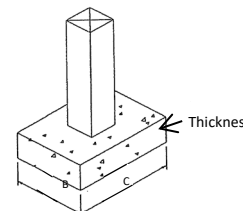
Deck Width (ft)	Normal Lumber Size		
	2 - 2 x 8	2 - 2 x 10	2 - 2 x 12
10	6-9	8-0	9-5
		7-4	8-7
		6-9	8-0
		6-4	7-6
		6-0	7-0



Joist Size	Spaced @	Will Span
2 x 6	12" OC	9'11"
	16" OC	9'0"
	24" OC	7'7"
2 x 8	12" OC	13'1"
	16" OC	11'10"
	24" OC	9'8"
2 x 10	12" OC	16'2"
	16" OC	14'0"
	24" OC	11'5"
2 x 12	12" OC	18'0"
	16" OC	16'6"
	24" OC	13'6"



*Tributary area of shaded section on free standing deck shown is 5' x 6' = 30 sq. ft. Code will require a minimum footer of 8" x 16"

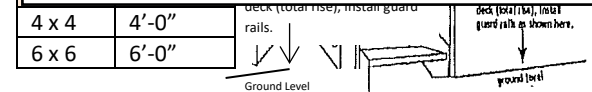


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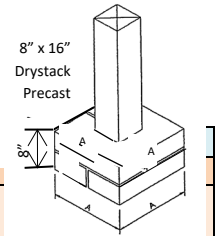
How high off the ground will the floor of your deck be?

If the walking surface of the deck is 30 inches off of the ground, your deck must be surrounded by guard rails which are a minimum of 36 inches in height. The steps for the deck must also have guard/handrails on both sides, if there are 4 or more individual risers (spaces between steps). If the steps have a total rise of 30" or more above ground level, guard rails/handrails must be also provided on open sides of the steps.



Bracing your deck for lateral support.

If you're planned deck is attached and over 4' above the ground (measured from top of footing to deck floor), bracing for lateral support is required. Free standing decks greater than 30' in height (measured from the top of the footing to deck floor) also require bracing. Several methods of bracing are acceptable depending on whether the deck is free standing or attached.



Footing			Tributary Area (Sq. Ft.)	
Size (inches)		Tributary Area (Sq. Ft.)	4	6
A x A	B x C			
8 x 16	8 x 16	36	4	6
12 x 12	12 x 12	40	4	6
16 x 16	16 x 16	70	8	8
--	16 x 24	100	--	8
--	24 x 24	150	--	8

supported by concrete footings. The size of each footing is determined by the tributary load imposed on it (see the diagram below for an explanation of tributary load). Each footing must be dug down into undisturbed soil and to a minimum depth

Important Note:

The Building Code also regulates items such as the stringers and treads for steps, fastening (nailing and/or bolting) and bracing for lateral stability. Be sure to discuss these with one of our Code Officials, if you have questions about what the code requires.

Girder Size	to 8'	2 – 2" x 8" (See Girder Table)	2 – 2" x 12" through bolted to posts
Post Spacing	(See Span Table)	(See Span Table)	6' maximum between posts around perimeter and in lines across the deck floor
Deck Band & Ledger	2 – 2" x 8" (Band) 2" x 2" (Ledger or Joist Hanger)	2 – 2" x 8" (Band) 2" x 2" (Ledger or Joist Hanger)	2 – 2" x 10" (Band) 2" x 2" with 3 nails under each joist (Ledger) *May substitute 2 – 2" x 8" for band if joist hangers are used in place of ledgers
Joist Size	(See Span Table)	2" x 8" spaced 16" OC	
Deck Flooring	5/4" x 6"	5/4" x 6" or 2" x 6" flooring with 1/8" space between	
Guard Rail & Height	Max. clear space between pickets: 4" Height: 36" Min.	2" x 4" rail with 2" x 2" pickets spaced 4" OC Height: 36" Min.	

Stairs treads and risers per R311.7.4.1 (8 1/4" Max. riser) & R331.7.4.2 (9" Min. tread depth). Stairways Min. 36" width per R311.5.1 (rail projections allowed).

Riser openings: Stairs with a 30" or more vertical rise must have solid risers or opening restricted to prevent a 4" sphere from passing per R311.7.4.3.

Lateral Bracing is required if deck post span is greater than 7'

Floor joist cantilevers allowed per Table AM 106.1

Attachment to structure based upon all cladding types but brick veneer.

Decking using #2 SYP attached with 2 – 8d galv. Nails at each joist or approved screws. Other mfg. installation based upon joists OC spacing. Alternate material attached per mfg installation instructions.

Deck post See above section

Footers per Footing table. Min. base of footers 12" below grade.

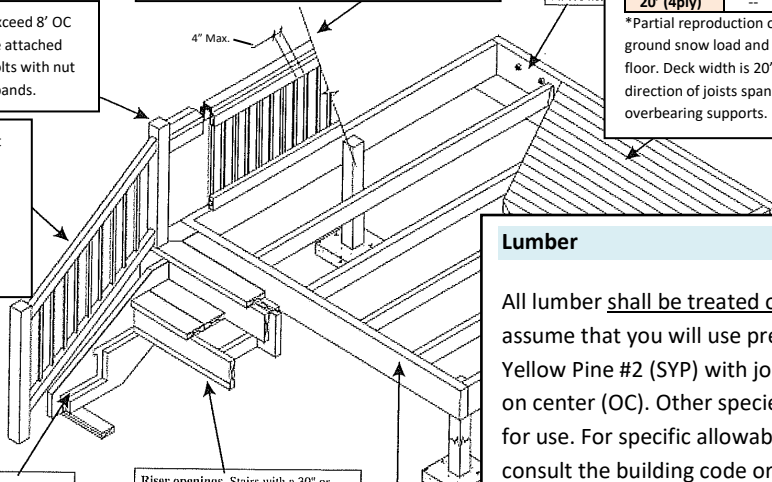


FIGURE AM110

Guards at a Min. 36" required per R312.1 with 30" drop and opening limits per R312.2 & R312.3 (4" on vertical pickets, 6" on horizontal and ornamental guard rails), top rail and post to support 200 lbs. with infill to meet 50 lbs. per Table R301.5 and footnotes.

Rail posts cannot exceed 8' OC spacing and shall be attached with 2 3/8" Galv. Bolts with nut & washer to outer bands.

Stair handrail/Guard: Height between 34 – 38" per R311.7.1 & R312.2. Opening on side of stairs requiring guards shall not allow a sphere 4 3/8" to pass per R312.3 exception #2.



Attaching upon all cladding veneer per ledger per AM104.1.

Deck Width	Exterior Girder Clear Spans			
	Normal Lumber Size			
	2 x 6	2 x 8	2 x 10	2 x 12
20' (2ply)	3-11	5-0	6-1	7-1
20' (3ply)	--	6-3	7-7	8-10
20' (4ply)	--	--	8-9	10-2

*Partial reproduction of Table R602.7 (1 & 2) at 30 ground snow load and roof ceiling and 1 clear span floor. Deck width is 20' or less measured in the direction of joists span. Splices in plies must break overbearing supports.

Lumber

All lumber shall be treated or decay resistant. We will assume that you will use pressure treated Southern Yellow Pine #2 (SYP) with joist spacing set at 16 inches on center (OC). Other species of lumber are acceptable for use. For specific allowable spans on other species, consult the building code or speak to a Code Official.

City of King

Requirements for Building a Deck

Planning & Inspections Department

