



**DeKalb County**  
**Planning / Zoning / Building Department**  
**110 E. Sycamore St., 4<sup>th</sup>. Floor**  
**Sycamore, IL 60178**  
**(815) 895-7188**  
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**DeKalb County / Residential Deck Requirements**  
**Based on 2003 International Residential Code**

- ▶ **REQUIRED SUBMITTALS:** Drawings showing deck details ( dimensions, ledger bolting, joist size and spacing, beam sizes, post sizes and spacing, wood species, stair details, guard and stair rail details, etc.); Drawing showing location of the new structure on your property, in relationship to other structures and your property lines. Drawings must be submitted with permit application and fees. **WORK MAY NOT COMMENCE UNTIL PERMIT IS ISSUED.**
- ▶ All fasteners, anchors, flashing and hardware must be approved for the type of lumber used. **CHECK WITH YOUR SUPPLIER.**
- ▶ Posts must be decay-resistant or approved pressure treated and rated for ground contact, as applicable.
- ▶ Minimum post size: 4"x 4" (for decks with finished floor 6 feet or less above finished grade) or 6"x 6" (for decks with finished floor more than 6 feet in height above finished grade).
- ▶ Posts may be set on a minimum 9" concrete pier, which extends at least 48" below finished grade and at least 2" above finished grade -or- on a 6" thick and 10" in diameter concrete or masonry pad located at least 48" below grade. (If concrete is to be poured around post, post must be wrapped with felt paper). Posts and piers must be connected by means of an approved means.
- ▶ Decks must be designed for a minimum live load of 40 psf. Balconies must be designed for a minimum live load of 60 psf. Cantilevers may not exceed spans outlined in IRC Tables R502.3.3(2).
- ▶ Ledger boards must be flashed with approved material and must be attached to building framing with minimum 3/8" lags spaced 32" on center (stacked) or 16" on center (staggered).
- ▶ The end of each joist, beam or girder shall have not less than 1 ½" of bearing on wood or metal, and not less than 3" on masonry or concrete except where supported on 1X4" ribbon strip and nailed to the adjacent stud or by the use of approved joist hangers.
- ▶ Porches, balconies, or raised floor surfaces located more than 30" above the floor or grade below shall have guards not less than 36" in height. Guards shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4" or more in diameter.
- ▶ A flight of stairs may not have a vertical rise greater than 12' between floor levels or landings. The width of each landing shall not be less than the stairway served. Every landing shall have a

minimum dimension of 36" measured in the direction of travel.

- ▶ **Stairs with more than 4 risers must have a hand/guard rail at least one side. Stairs having open sides more than 30" above finished grade must have guard rails both sides, with a hand rail 34 to 38" in height measured from nose of stairs. All required handrails must provide adequate graspability (outside diameter of 1/2" - 2" or equivalent). Guard rails must be a minimum of 36" in height measured from the nose of stairs. Guards shall have intermediate rails or ornamental closures which do not allow passage of a sphere 4" or more in diameter.**
- ▶ **Stair geometry, as follows: minimum width; 36", maximum riser height; 8 1/4", minimum tread depth; 9" (measured - leading edge to leading edge). Maximum open space between risers; < 4". IRC R311.5 (amended)**
- ▶ **Exterior stairways must be provided with an artificial light source located in the immediate vicinity of the top landing of the stairway.**
- ▶ **ALL wood used on exterior or for decking, must be treated or naturally decay resistant.**
- ▶ **Decks having the lowest structural member (beam, girder, etc.) less than 18" to the ground (for beams or girders) or 12" to the ground (joists., etc) must be provided with an impervious moisture barrier (plastic sheeting, etc) covered with stone, etc.**

**EXCERPTED FROM IRC TABLE 502.3.1 (2)**  
**FLOOR JOISTS 40 PSF LL 10 PSF DL L/360**

<b>#2 DOUGLAS FIR-LARCH</b>				
SPACING	2 X 6	2 X 8	2 X 10	2 X 12
12	10 - 9	14 - 2	17 - 9	20 - 7
16	9 - 9	12 - 7	15 - 5	17 - 10
24	8 - 1	10 - 3	12 - 7	14 - 7

<b>#2 HEM-FIR</b>				
SPACING	2 X 6	2 X 8	2 X 10	2 X 12
12	10 - 0	13 - 2	16 - 10	20 - 4
16	9 - 1	12 - 0	15 - 2	17 - 7
24	7 - 11	10 - 2	12 - 5	14 - 4

<b>#2 SOUTHERN PINE</b>				
SPACING	2 X 6	2 X 8	2 X 10	2 X 12
12	10 - 9	14 - 2	18 - 0	21 - 9
16	9 - 9	12 - 10	16 - 1	18 - 10
24	8 - 6	11 - 0	13 - 1	15 - 5

<b>#2 SPF CANADIAN</b>				
SPACING	2 X 6	2 X 8	2 X 10	2 X 12
12	10 - 9	14 - 2	18 - 0	21 - 9
16	9 - 9	12 - 10	16 - 1	18 - 10
24	8 - 6	11 - 0	13 - 1	15 - 5

#2 SPF CANADIAN				
12	10 - 3	13 - 6	17 - 3	20 - 7
16	9 - 4	12 - 3	15 - 5	17 - 10
24	8 - 1	10 - 3	12 - 7	14 - 7

**EXCERPTED FROM TABLE R502.5(2)**

**GIRDER SPANS AND HEADER SPANS FOR INTERIOR BEARING WALLS SUPPORTING ONE FLOOR ONLY**

SPANS BASED ON DOUGLAS FIR-LARCH, HEM-FIR, SOUTHERN PINE AND SPRUCE-PINE-FIR. GROUND SNOW LOAD CALCULATED AT 30 PSF.

HEADERS AND GIRDERS SUPPORTING	SIZE	BUILDING WIDTH		
		20	28	36
ONE FLOOR ONLY	2-2X4	3-1	2-8	2-5
	2-2X6	4-6	3-11	3-6
	2-2X8	5-9	5-0	4-5
	2-2X10	7-0	6-1	5-5
	2-2X12	8-9	7-7	6-9
	3-2X8	7-2	6-3	5-7
	3-2X10	8-9	7-7	6-9
	3-2X12	10-2	8-10	7-10
	4-2X8	5-10	5-1	4-6
	4-2X10	10-1	8-9	7-10
	4-2X12	11-9	10-2	9-1

*Investigate before you excavate and determine whether or not there are any underground utilities where you plan to dig. If in doubt, call JULIE (1-800-892-0123) 48 hours before you dig.*

**REQUIRED INSPECTIONS:**

**Pier Inspection - Prior to placing posts or concrete.**

**Rough Inspection - If any area of the deck is within 18" of the ground**

**Final Inspection - Once all work is completed.**