

# BUILDBLOCK BUILDING SYSTEMS GLOBALBLOCK ENGINEERING TABLES

## MAXIMUM ALLOWABLE CLEAR SPANS FOR 6-INCH THICK SCREEN-GRID LINTELS IN LOAD-BEARING WALLS 1,2,3,4,5,6,16 ROOF CLEAR SPAN 32 FEET AND FLOOR CLEAR SPAN 24 FEET

Lintel Depth 7, D(in.)	Number of bars and bar size in top and bottom of lintel	Steel yield strength 8, fy(ksi)	Loading condition determined from Table 7.2								
			1	2		3		4		5	
			Maximum ground snow load (psf)								
			30	70	30	70	30	70	30	70	
Maximum clear span of lintel (ft-inches)											
12 <sup>9,10</sup>	Span without stirrups 13		2-9	2-11	2-4	2-5	2-3	2-3	2-2	2-0	2-0
16 <sup>9,10</sup>	Span without stirrups 13		3-9	4-0	3-4	3-5	3-2	3-1	3-0	2-9	2-9
20 <sup>9,10</sup>	Span without stirrups 13		4-9	5-1	4-3	4-4	4-1	4-0	3-10	3-7	3-7
24 <sup>11</sup>	Span without stirrups 12,13		5-8	6-3	5-2	5-3	5-0	4-10	4-8	4-4	4-4
	1 - #4	40,000	7-11	9-0	6-11	7-2	6-5	6-1	5-8	4-9	4-7
		60,000	9-9	11-0	8-5	8-9	7-10	7-5	6-10	5-9	5-7
	1 - #5	40,000	9-11	11-2	8-7	8-1	8-0	7-7	7-0	5-11	5-9
		60,000	12-1	13-8	10-6	10-10	9-9	9-3	8-6	7-2	7-0
	2 - #4 1 - #6	40,000	11-2	12-8	9-9	10-1	9-1	8-7	7-11	6-8	6-6
		60,000	15-7	17-7	12-8	13-4	11-6	10-8	9-8	7-11	7-8
	2 - #5	40,000	14-11	18-0	12-2	12-10	11-1	10-3	9-4	7-8	7-5
60,000		DR	DR	DR	DR	DR	DR	DR	DR	DR	
Center distance A14,15			2-0	2-6	1-6	1-7	1-4	1-2	1-0	STL	STL

1. For SI: 1 inch = 25.4 mm; 1 psf = 0.0479 kN/m<sup>2</sup>; 1 ft. = 0.3048 m; Grade 40 = 280 MPa; Grade 60 = 420 MPa. Where lintels are formed with screen-grid forms, form material shall be removed if necessary to create top and bottom flanges of the lintel that are not less than 5 inches (127 mm) in width and not less than 2.5 inches (64 mm) in depth (in the vertical direction). See Figure 7.5. Flat stay-in-place form lintels shall be permitted to be used in lieu of screen-grid lintels. See Tables 7.3 through 7.10.
2. See Table 2.1 for tolerances permitted from nominal thickness and minimum dimensions and spacings of cores.
3. Table values are based on concrete with a minimum specified compressive strength of 2,500 psi (17.2 MPa). See notes 13 and 15. Table values are based on uniform loading. See Section 7.2 for lintels supporting concentrated loads.
4. Deflection criterion is L/240, where L is the clear span of the lintel in inches, or 1/2-inch (13 mm), whichever is less.
5. Linear interpolation is permitted between ground snow loads.
6. DR indicates design required STL indicates stirrups required throughout lintel
7. Lintel depth, D, is permitted to include the available height of wall located directly above the lintel, provided that the increased lintel depth spans the entire length of the lintel.
8. Stirrups shall be fabricated from reinforcing bars with the same yield strength as that used for the main longitudinal reinforcement.
9. Stirrups are not required for lintels less than 24 inches (610 mm) in depth fabricated from screen-grid forms. Top and bottom reinforcement shall consist of a No. 4 bar having a yield strength of 40,000 psi (280 MPa) or 60,000 psi (420 MPa).
10. Lintels between 12 (305) and 24 inches (610 mm) in depth with stirrups shall be formed from flat-walls forms (see Tables 7.3 through 7.10), or form material shall be removed from screen-grid forms so as to provide a concrete section comparable to that required for a flat wall. Allowable spans for flat lintels with stirrups shall be determined from Tables 7.3 through 7.10.
11. Where stirrups are required for 24-inch (610 mm) deep lintels, the spacing shall not exceed 12 inches (305 mm) on center.
12. Allowable clear span without stirrups applicable to all lintels of the same depth, D. Top and bottom reinforcement for lintels without stirrups shall not be less than the least amount of reinforcement required for a lintel of the same depth and loading condition with stirrups. All other spans require stirrups spaced at not more than 12 inches (305 mm).
13. Where concrete with a minimum specified compressive strength of 3,000 psi (20.7 MPa) is used, clear spans for lintels without stirrups shall be permitted to be multiplied by 1.05. If the increased span exceeds the allowable clear span for a lintel of the same depth and loading condition with stirrups, the top and bottom reinforcement shall be equal to or greater than that required for a lintel of the same depth and loading condition that has an allowable clear span that is equal to or greater than that of the lintel without stirrups that has been increased.
14. Center distance, A, is the center portion of the span where stirrups are not required. This is applicable to all longitudinal bar sizes and steel yield strengths.
15. Where concrete with a minimum specified compressive strength of 3,000 psi (20.7 MPa) is used, center distance, A, shall be permitted to be multiplied by 1.10.
16. The maximum clear opening width between two solid wall segments shall be 18 feet (5.5 m). See Section 5.2.1. Lintel spans in table greater than 18 feet (5.5 m) are shown for interpolation and information purposes only.

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