

8 X 8 LINTELS

For further technical information about shear strengths, deflections and other issues, please call our office at 302-934-9237

Design Data

$f'_c = 3,000$ psi (minimum)
 $f_y = 60,000$ psi (per ASTM-A615)
 Average weight per lineal foot of beam - 56 lbs.

Design formulas as per ACI 318-95

$M_n =$ Moment governed by ultimate strength = $0.9 (A_s) (f_y) (d-a/2)$
 $V_n =$ Shear governed by ultimate strength $\leq \frac{1}{2} \phi (2\sqrt{f'_c} b_w d)$
 $M_n = \frac{1}{8} W_n (L_2)^2$
 $V_n = \frac{1}{2} W_n L_2$
 $\Delta_{max} =$ Maximum allowable deflection = $L_2/360 \leq 0.3"$
 UL Fire Ratings 1 1/2 hour

Typical Section:

Width (W) = 7.625 inches
 Height (H) = 7.625 inches
 Eff. Depth (d) = H - 1 1/2" 1/2 bar dia.

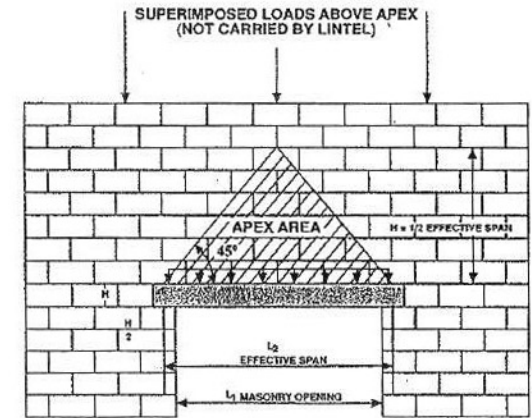
As a minimum, the lintels carry the apex area above the span. An example of the uniform equivalent apex load calculation follows.

Hollow masonry block weights for determining uniform equivalent apex load on lintel:
 8" block weight - 35 psf (Hollow)
 12" block weight - 50 psf (Hollow)

Equivalent load of apex area - .33 WL
 Effective span "L" of lintel (centerline of bearing to centerline of bearing).
 Weight of masonry block, "W" PSF

EXAMPLE

Equivalent apex load for 8" X 8" Lintel with effective span of 48"
 Apex Load = (.33) (W) (L) = .33 (35 psf) (48" / 12) = 46#/FT
 Capacity of 4 X 8 lintel with effective span of 48" (from load table for live loads) = 2744 #/FT
 Therefore, the lintel has significant excess capacity. If superimposed load is located within apex area, then refer to the load tables to ensure sufficient capacity.



1. Reinforcement rods (A _s)	Top	2#4								2#5					
	Bottom	2#4								2#5					
2. Nominal lintel length (inches)		40	48	56	64	72	80	88	96	104	112	120	128	136	144
3. Masonry opening L ₁ (inches)		24	32	40	48	56	64	72	80	88	96	104	112	120	128
4. Effective span L ₂ (inches)		32	40	48	56	64	72	80	88	96	104	112	120	128	136
5. Maximum allowable load Balanced condition **	(lbs.-ft.)	10470	6731	4665	3422	4063	3206	2595	2148	1803	1535	1326	1154	1014	900
	Dead Load (lbs.-ft.)	7479	4808	3332	2444	2902	2290	1854	1534	1288	1096	947	824	724	643
	Live Load (lbs.-ft.)	6159	3959	2744	2013	2390	1886	1526	1264	1061	903	780	679	596	529
6. Maximum bending moment capacity, M _n	(lbs.-ft.)	2898	2898	2898	2898	2898	4900	4900	4900	4900	4900	4900	4900	4900	4900

**Maximum allowable superimposed W_u uniformly distributed load covered by bending (lbs.-ft) balanced condition



Parker Block
 PO Box 780
 Millsboro, DE 19966-0780