

# 6 X 8 LINTELS 3,000 psi (Dry mix)

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 - 42 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  $\leq 1/2 \phi (2\sqrt{f'_c} b_w d)$   
 $M_n = 1/8 W_n (L_2)^2$   
 $V_n = 1/2 W_n L_2$   
 $\phi_{max} =$  Maximum allowable deflection  $= L_2/360 \leq 0.3"$   
 UL Fire Ratings 1 1/2 hour

### Typical Section:

Width (W) = 5.625 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.

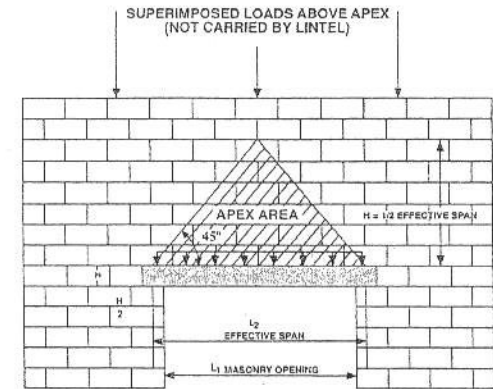
Hollow masonry block weights for determining uniform equivalent apex load on lintel:  
 6" block weight - 32 psf (Hollow)  
 12" block weight - 50 psf (Hollow)

Equivalent load of apex area  $\approx .33$  WL  
 Effective span "L" of lintel (centerline of bearing to centerline of bearing).

Weight of masonry block, "W" PSF

### EXAMPLE

Equivalent apex load for 6" X 8" Lintel with effective span of 48"  
 Apex Load = (.33) (W) (L) = .33 (32 psf) (48" /12) = 43#/FT  
 Capacity of 6 X 8 lintel with effective span of 48"  
 (from load table for live loads) = 1665 #/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 <sub>s</sub> )	Top	Not required								1#3							
	Bottom	2#3								2#4							
2. Nominal lintel length (inches)		32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	
3. Masonry opening L <sub>1</sub> (inches)		16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	
4. Effective span L <sub>2</sub> (inches)		24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	
5. Maximum allowable load Balanced condition	(lbs.-ft.)	11320	6351	4083	2830	2076	1593	1257	1017	842	968	823	711	619	544	483	
	Dead Load (lbs.-ft.)	8086	4536	2916	2021	1483	1138	898	726	601	691	588	508	442	389	345	
	Live Load (lbs.-ft.)	6659	3736	2402	1665	1221	937	739	598	495	569	484	418	364	320	284	
6. Maximum bending moment capacity, M <sub>n</sub>	(lbs.-ft.)	5660	5660	5660	5660	5660	5660	5660	5660	5660	7744	7744	7744	7744	7744	7744	

\*\*Maximum allowable superimposed W<sub>u</sub> uniformly distributed load covered by bending (lbs.-ft) balanced condition

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