

4 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 - 28 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 $\leq 1/2 \phi (2\sqrt{f'_c} b_w d)$
 $M_n = 1/8 W_n (L_2)^2$
 $V_n = 1/2 W_n L_2$
 $\Delta_{max} =$ Maximum allowable deflection = $L_2/360 \leq 0.3"$

UL Fire Ratings 1 1/2 hour

Typical Section:

Width (W) = 3.625 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

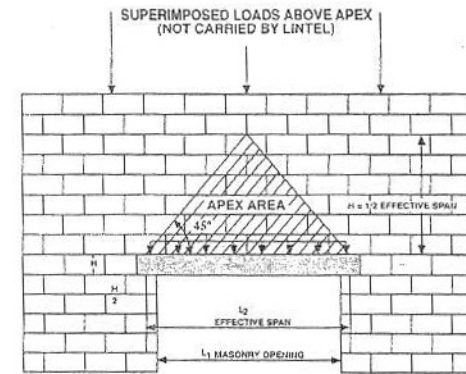
EXAMPLE

Equivalent apex load for 4" X 8" Lintel with effective span of 48"

Apex Load = (.33) (W) (L) = .33 (35 psf/2) (48" /12) = 23#/FT

Capacity of 4 X 8 lintel with effective span of 48"
 (from load table for live loads) = 852 #/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 Bottom	Not required										1#3																	
		1#3										1#4																	
2. Nominal lintel length (inches)		32	36	40	42	44	48	54	56	60	64	66	72	78	80	84	88	90	96	102	104	108	112	114	120	128	132	136	144
3. Masonry opening L_1 (inches)		16	20	24	26	28	32	38	40	44	48	50	56	62	64	68	72	74	80	86	88	92	96	98	104	112	116	120	128
4. Effective span L_2 (inches)		24	28	32	34	36	40	46	48	52	56	58	64	70	72	76	80	82	88	94	96	100	104	106	112	120	124	128	136
5. Maximum allowable load Balanced condition	(lbs.-ft.)	5797	4271	3701	3253	2957	2091	1606	1449	1236	1063	1006	816	1165	1088	980	881	847	729	644	613	565	521	507	450	392	368	345	306
Dead Load	(lbs.-ft.)	4141	3051	2644	2324	2112	1494	1147	1035	883	759	719	583	832	777	700	629	605	521	460	438	404	372	362	321	280	263	246	219
Live Load	(lbs.-ft.)	3410	2512	2177	1914	1739	1230	945	852	727	625	592	480	685	640	576	518	498	429	379	361	332	306	298	265	231	216	203	180
6. Maximum bending moment capacity, M_n	(lbs.-ft.)	2898	2898	2898	2898	2898	2898	2898	2898	2898	2898	2898	2898	4900	4900	4900	4900	4900	4900	4900	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

