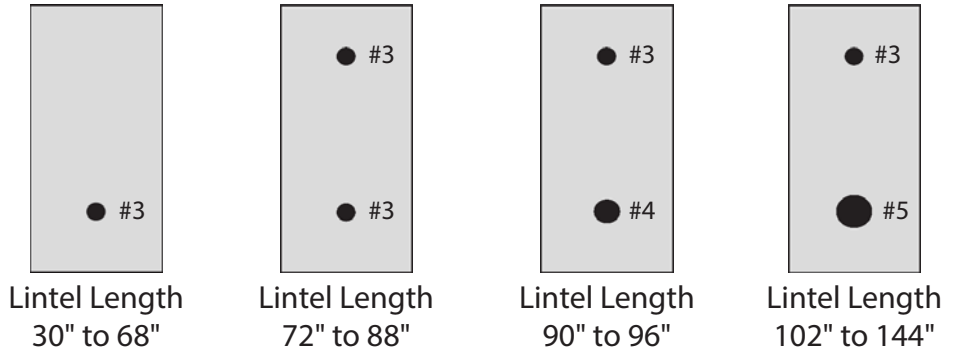


SOLID LINTEL SIZING OVERVIEW

Stock Sizes:

| | |
|----------------|--------|
| 4" x 8" x 144" | 48144L |
| 4" x 8" x 112" | 48112L |
| 4" x 8" x 96" | 4896L |
| 4" x 8" x 84" | 4884L |
| 4" x 8" x 72" | 4872L |
| 4" x 8" x 64" | 4864L |
| 4" x 8" x 56" | 4856L |
| 4" x 8" x 48" | 4848L |
| 4" x 8" x 42" | 4842L |
| 4" x 8" x 36" | 4836L |

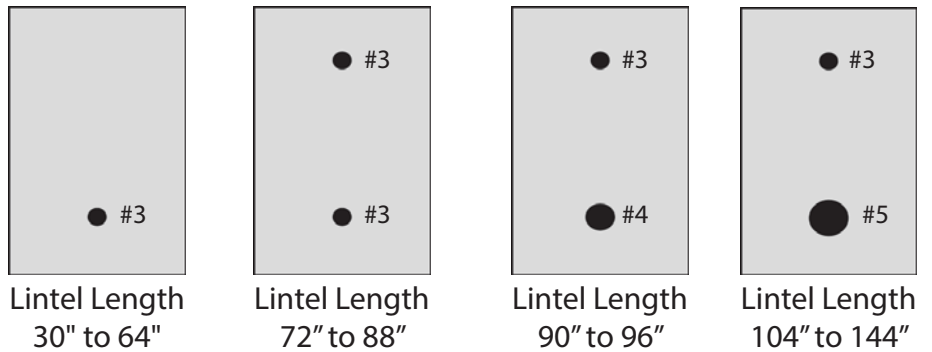
4" x 8" SOLID LINTELS



Stock Sizes:

| | |
|----------------|--------|
| 6" x 8" x 144" | 68144L |
| 6" x 8" x 112" | 68112L |
| 6" x 8" x 96" | 6896L |
| 6" x 8" x 84" | 6884L |
| 6" x 8" x 72" | 6872L |
| 6" x 8" x 64" | 6864L |
| 6" x 8" x 56" | 6856L |
| 6" x 8" x 48" | 6848L |
| 6" x 8" x 42" | 6842L |

6" x 8" SOLID LINTELS



Special rebar schedules available upon request.

Rebar is grade 60 steel ASTM 615
 Concrete compressive strength is 3,000 PSI
 Minimum fire rating is 1 1/2 hours

Rebar placement:
 Clearance from bottom: 1 1/2"
 Clearance from top: 1 1/2"

| 4X8 SOLID LINTELS | 3,000 psi (Dry mix) | | | | | | | | | | | | | | | | Self Weight 28#/ft | | | | | | | | | | | | | | | | | |
|--|---|--------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------|------|--------|------|------|------|------|------|------|------|------|------|--|--|--|--|--|--|
| | 1. Reinforcement rods (A ₁) | | Not required | | | | | | | | | | | | | | | | (1) #3 | | | | | | | | | | | | | | | |
| | Top | Bottom | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 58 | 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 Unfactored (lbs/ft.) | 1145 | 982 | 861 | 808 | 763 | 687 | 597 | 572 | 528 | 490 | 474 | 429 | 392 | 382 | 361 | 343 | 335 | 312 | 292 | 286 | 275 | 264 | 259 | 245 | 229 | 221 | 214 | 202 | | | | | | |
| Dead Load (lbs/ft.) | 817 | 701 | 615 | 577 | 545 | 490 | 426 | 408 | 377 | 350 | 338 | 306 | 280 | 273 | 258 | 245 | 239 | 223 | 208 | 204 | 196 | 188 | 185 | 175 | 164 | 158 | 153 | 144 | | | | | | |
| Live Load (lbs/ft.) | 673 | 577 | 506 | 475 | 449 | 404 | 351 | 336 | 310 | 288 | 279 | 252 | 230 | 225 | 212 | 202 | 197 | 183 | 172 | 168 | 162 | 155 | 152 | 144 | 135 | 130 | 126 | 119 | | | | | | |
| 6. Maximum bending moment capacity M ₁ (ft.-lbs.) | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | 2898 | | | | | | |

Design Data

f_x = 3,000 psi (minimum)

f_y = 60,000 psi (per ASTM-A615)

Average weight per lineal foot of beam - 33 lbs

Seismic Capability

Design formulas as per ACI 318-12

M_n = Moment governed by ultimate strength = 0.9 (A_s)(f_y)(d-a/2)

V_n = Shear governed by ultimate strength

M_n = 1/8 W_n (L₂)²

V_n = 1/2 W_n L₂

max = Maximum allowable deflection = L₂/360 ≤ 0.3"

UL Fire Ratings 1-1/2 hour

Typical Section:

Width (W) = 3.625"

Height (H) = 7.625"

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"X8" Lintel with effective span of 48"

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

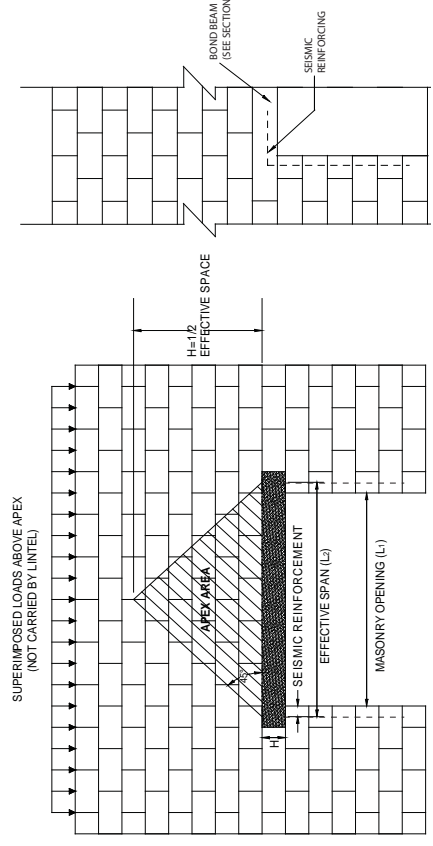
Capacity of 4X8 lintel with effective span of 48"

(from load table for live loads) = 572#/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.



| | 3,000 psi (Dry mix) | | | Self Weight 42#/ft | | | | | | | | | | | |
|--|-------------------------------|--------------|------|--------------------|------|--------|------|------|--------|------|------|------|------|------|------|
| | Top rods (A ₁) | Not required | | (1) #3 | | (2) #4 | | | (1) #5 | | | | | | |
| 2. Nominal lintel length (inches) | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 | 128 | 136 | 144 |
| 3. Masonry opening L ₁ (inches) | 16 | 24 | 32 | 40 | 48 | 58 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 | 128 |
| 4. Effective span L ₂ (inches) | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 | 104 | 112 | 120 | 128 | 136 |
| 5. Maximum allowable load Unfactored (lbs/ft.) | 1717 | 1288 | 1030 | 858 | 736 | 644 | 572 | 515 | 468 | 429 | 396 | 368 | 343 | 322 | 303 |
| Dead Load (lbs/ft.) | 1226 | 920 | 735 | 613 | 526 | 460 | 408 | 368 | 334 | 306 | 283 | 263 | 245 | 230 | 216 |
| Live Load (lbs/ft.) | 1010 | 757 | 605 | 504 | 433 | 379 | 336 | 303 | 275 | 252 | 233 | 216 | 202 | 189 | 178 |
| 6. Maximum bending moment capacity M ₁ (ft.-lbs.) | 5660 | 5660 | 5660 | 5660 | 5660 | 5660 | 5660 | 5660 | 5660 | 5660 | 7744 | 7744 | 7744 | 7744 | 7744 |

Design Data

f_c = 3,000 psi (minimum)
 f_t = 60,000 psi (per ASTM-A615)
 Average weight per lineal foot of beam - 50 lbs
 Seismic Capability
 Design formulas as per ACI 318-12
 M_u = Moment governed by ultimate strength = $0.9 (A_s) (f_y) (d - a/2)$
 V_u = Shear governed by ultimate strength
 $M_u = 1/8 W_u L_2^2$
 $V_u = 1/2 W_u L_2$
 max = Maximum allowable deflection = $L_2/360 \leq 0.3"$
 UL Fire ratings 1-1/2 hour

Typical Section:

Width (W) = 5.625"
 Height (H) = 7.625"
 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 = 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 = $(33) (W) (L) = (33) (32 \text{ psf} / 2) (48' / 12) = 43 \# / \text{FT}$
 Capacity of 6X8 lintel with effective span of 48"
 (from load table for live loads) = 858#/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.

