



CONCRETE LINTEL **SPECIFICATION GUIDE**



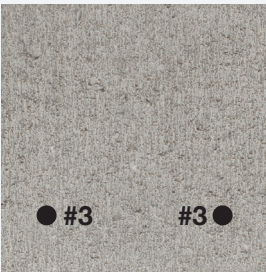
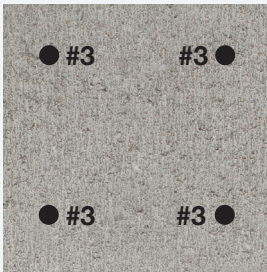
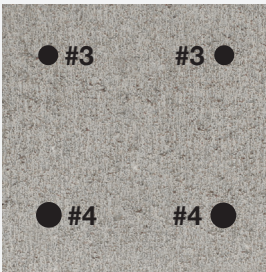
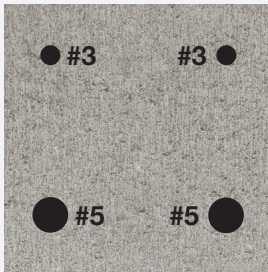
4" x 8" SOLID LINTELS

			
Lintel Length 30" to 68"	Lintel Length 72" to 88"	Lintel Length 90" to 96"	Lintel Length 102" to 144"

6" x 8" SOLID LINTELS

			
Lintel Length 30" to 64"	Lintel Length 72" to 88"	Lintel Length 90" to 96"	Lintel Length 104" to 144"

8" x 8" SOLID LINTELS

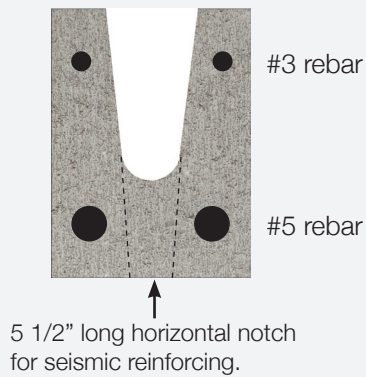
			
Lintel Length 40" to 64"	Lintel Length 72" to 88"	Lintel Length 96"	Lintel Length 108" to 144"

Special rebar schedules available upon request.

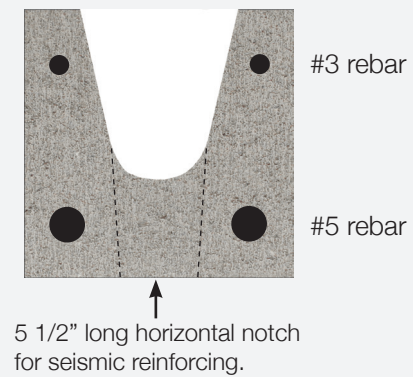
Rebar is grade 60 steel ASTM 615
All units meet 4-inch minimum bearing length
Concrete compressive strength is 3,000 PSI
Minimum fire rating is 1 1/2 hours

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

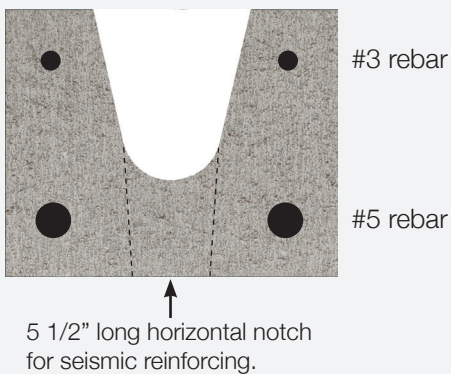
6" x 8" U-LINTELS



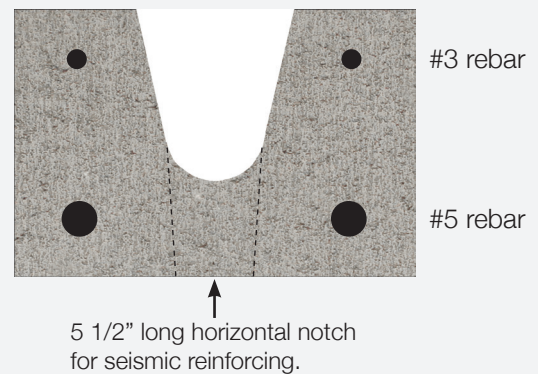
8" x 8" U-LINTELS



10" x 8" U-LINTELS



12" x 8" U-LINTELS



- U-lintels are available in lengths from 36" to 144".
- All four widths are stocked in these lengths:
48", 56", 72", 88", 96", 144"
- All other lengths available by special request.
- #3 and #5 rebar placed as shown.



Rebar is grade 60 steel ASTM 615
All units meet 4-inch minimum bearing length
5,000 PSI concrete mix design
Minimum fire rating is 1 1/2 hours

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

Load Tables

SOLID LINTELS

4" x 8"

6" x 8"

8" x 8"

U-LINTELS

6" x 8"

8" x 8"

10" x 8"

12" x 8"



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SOLID LINTELS - 4" x 8"

4X8 SOLID LINTELS				3,000 psi (Dry mix)										Self Weight 28#/ft																		
1. Reinforcement rods (A ₁)		Top	Not required																		(1) #3											
		Bottom	(1) #3																		(1) #4						(1) #5					
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		

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"

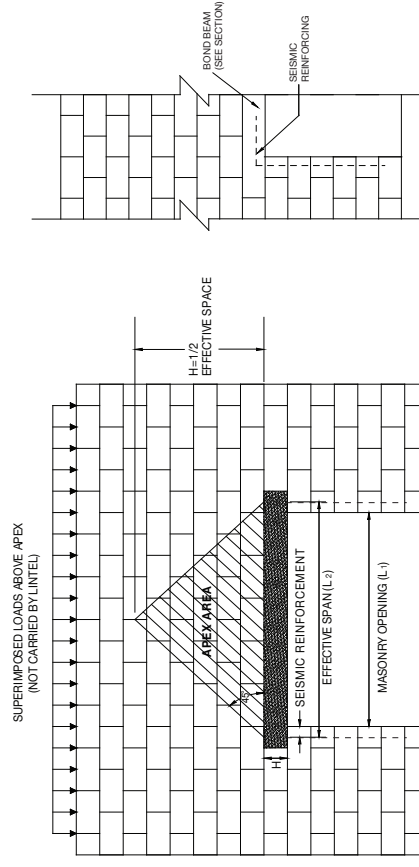
(from load table for live loads) = 572#FT

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.

Design Data
 fx = 3,000 psi (minimum)
 fy = 60,000 psi (per ASTM-A615)
 Average weight per lineal foot of beam - 33 lbs

Seismic Capability
 Design formulas as per ACI 318-12
 Mn= Moment governed by ultimate strength = 0.9 (A2)(f2)(d-a/2) Vn= Shear governed by ultimate strength
 Mn= 1/8 Wn (L/2)
 Vn= 1/2 WnL/2
 max = Maximum allowable deflection = L/2
 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.
 Grouted Self Weight = 33#/ft





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SOLID LINTELS - 6" X 8"

6x8 SOLID LINTELS			3,000 psi (Dry mix)					Self Weight 42#/ft									
1. Reinforcement rods (A ₁)		Top	Not required					(1) #3					(1) #5				
		Bottom	(1) #3					(1) #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	7744	7744	7744	7744	7744	7744

Design Data

fx = 3,000 psi (minimum)
fy = 60,000 psi (per ASTM-A615)
Average weight per lineal foot of beam - 50 lbs
Seismic Capability
Design formulas as per ACI 318-12
Mn= Moment governed by ultimate strength = 0.9 (A2)(f2)(d-a/2)
Vn= Shear governed by ultimate strength
Mn= 1/8 Wn (L2)/2
Vn= 1/2 WnL2
max = Maximum allowable deflection = L2/360±0.3"
UL Fire Ratings 1-1/2 hour

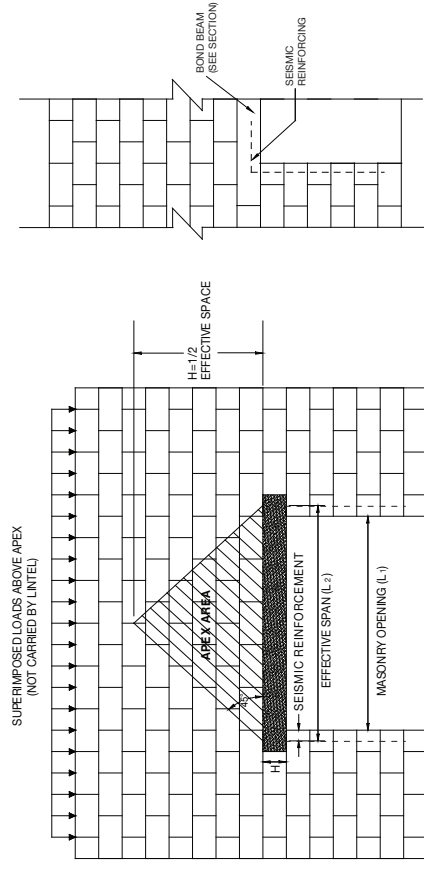
Typical Section:

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"x8" Lintel with effective span of 48"
Apex Load = (.33) (W) (L) = .33 (32psf/2) (48"/12) = 43#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.





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SOLID LINTELS - 8" X 8"

8x8 SOLID LINTELS		3,000 psi (Dry mix)				Self Weight 56#/ft									
1. Reinforcement rods (A _v)	Top					(2) #3				(2) #4		(2) #3			
	Bottom	(2) #3				(2) #3				(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 Unfactored	(lbs/ft.)	1722	1374	1144	980	858	764	686	624	572	528	490	458	428	404
Dead Load	(lbs/ft.)	1230	981	817	700	613	546	490	445	408	377	350	327	305	288
Live Load	(lbs/ft.)	1013	808	673	576	505	449	403	367	336	310	288	269	252	237
6. Maximum bending moment capacity M ₁	(ft.-lbs.)	2898	2898	2898	2898	2898	2898	4900	4900	4900	4900	4900	4900	4900	4900

Design Data

f_x = 3,000 psi (minimum)
 f_y = 60,000 psi (per ASTM-A615)
 Average weight per LF of beam - 65 lbs
 Seismic Capability
 Design formulas as per ACI 318-12
 M_n = Moment governed by ultimate strength = 0.9(A_sf_y)d/a
 2) V_n = Shear governed by ultimate strength
 M_n = 1/8 W_n (L₂/2)
 V_n = 1/2 W_nL₂
 max = Maximum allowable deflection = L₂/360 ≤ 0.3"
 UL Fire Ratings 1-1/2 hour

Typical Section:

Width (W) = 7.625"
 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

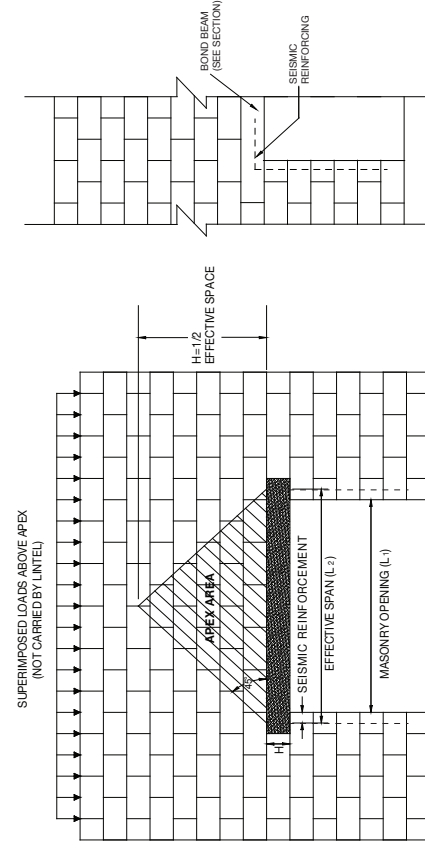
Equivalent apex load for 8"x8" Lintel with effective span of 48"

Apex Load = (.33) (W) (L) = .33 (35psf) (48"/12) = 46#FT

Capacity of 8x8 lintel with effective span of 48"

(from load table for live loads) = 1.144#/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.



U- LINTELS - 6" X 8"

6x8 "U" LINTELS		5,000 psi PRECAST BOND BEAM LINTELS										Self Weight 34#/ft															
1. Reinforcement rods (A _s)		Top	(2) #3																								
		Bottom	(2) #5																								
2. Nominal lintel length (inches)		32	40	48	54	56	60	64	66	72	78	80	84	88	90	96	102	104	108	112	114	120	128	132	136	14	
3. Masonry opening L ₁ (inches)		16	24	32	38	40	44	48	50	58	62	64	68	72	74	80	86	88	92	96	98	104	112	116	120	12	
4. Effective span L ₂ (inches)		24	32	40	46	48	52	56	58	64	70	72	76	80	82	88	94	96	100	104	106	112	120	124	128	13	
5. Maximum allowable load Unfactored	(lbs/ft.)	2217	1663	1330	1157	1108	1023	950	917	831	760	739	700	665	650	605	566	554	532	511	502	475	443	429	416	39	
Dead Load	(lbs/ft.)	1583	1187	950	826	791	730	679	655	593	544	528	500	475	464	432	404	395	380	365	358	339	316	306	297	27	
Live Load	(lbs/ft.)	1304	978	782	680	651	601	559	539	489	447	428	411	385	382	356	334	325	313	300	295	279	260	252	245	23	
6. Maximum bending moment capacity M _r	(ft.-lbs.)	5896	5896	5896	5896	5896	5896	5896	5896	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	15632	15632	15632	1563	2

Design Data

f'_c = 5,000 psi (minimum)

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

Average weight per lineal foot of beam - 50 lbs (Grouted Solid)

Seismic Capability

Design formulas as per ACI 318-12

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

$a/2$ V_n = Shear governed by ultimate strength

$M_n = 1/8 W_u (L_2)^2$

$V_n = 1/2 W_u L_2$

max = Maximum allowable deflection = $L_2/360 \leq 0.3"$ (9ft Lintel)

UL Fire Ratings 1-1/2 hour

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 = 30 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"x8" Lintel with effective span of 48"

Apex Load = $(.33) (W) (L) = .33 (35\text{psf}/2) (48'/12) = 20\text{\#FT}$

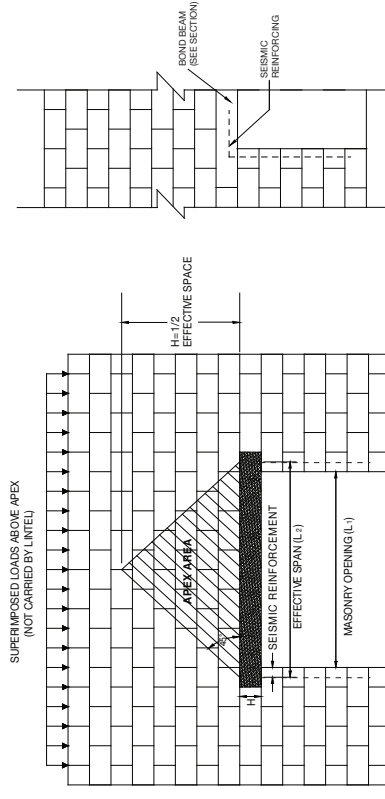
Capacity of 6x8 lintel with effective span of 48"

(from load table for live loads) = 2916#/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.



Typical Section:

Width (W) = 5-5/8"

Height (H) = 7.625"

Eff. Depth (d) = H-1-1/2" 1/2" bar dia.

8x8 "U" LINTELS		5,000 psi PRECAST BOND BEAM LINTELS										Self Weight 39#/ft																	
1. Reinforcement rods (A _s)		Top Bottom		(2) #3										(2) #3															
		(2) #5										(2) #3																	
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 _e (inches)		24	28	32	34	36	40	48	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.)	2957	2534	2217	2087	1971	1744	1544	1478	1367	1267	1223	1109	1014	985	934	887	865	806	755	739	710	682	669	634	591	572	554	522
Dead Load	(lbs/ft.)	2112	1810	1583	1490	1408	1245	1102	1055	976	905	874	792	724	703	667	634	618	576	539	528	507	487	478	453	422	408	396	373
Live Load	(lbs/ft.)	1739	1490	1304	1227	1159	1024	908	869	804	745	719	652	596	579	549	522	509	474	444	435	417	401	393	373	347	336	326	307
6. Maximum bending moment capacity M ₁	(ft.-lbs.)	5896	5896	5896	5896	5896	5896	5896	5896	5896	5896	5896	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	10434	15632	15632	15632	15632

Design Data

f'_c = 5,000 psi (minimum)
 f'_c = 60,000 psi (per ASTM-A615)
 Average weight per lineal foot of beam - 65 lbs (Grouted)
 Solid Seismic Capability
 Design formulas as per ACI 318-12
 M_1 = Moment governed by ultimate strength = $0.9 (A_s f_y) (d - a/2)$
 V_{1n} = $1/8 W_n (L_2)^2$
 V_{1n} = $1/2 W_{1-2}$
 max = Maximum allowable deflection = $L_2/360 \leq 0.3"$ (9ft Lintel)
 UL Fire Ratings 1-1/2 hour

Typical Section:

Width (W) = 7'-5/8"
 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.

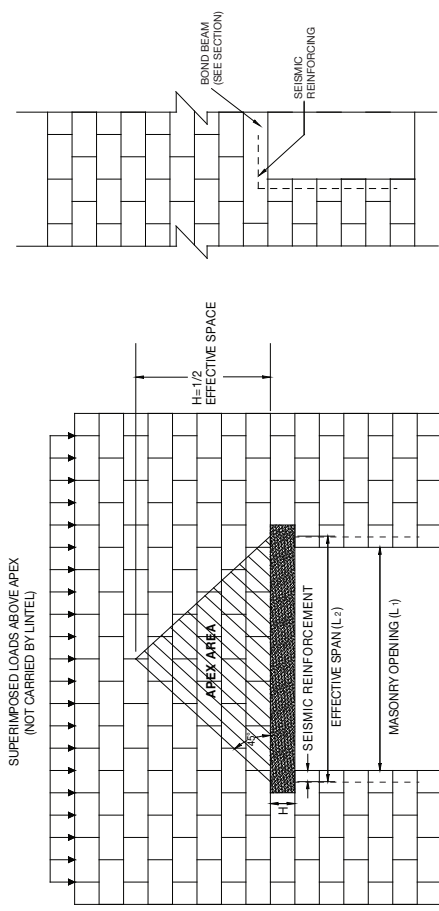
Hollow masonry block weights for determining uniform equivalent apex load on lintel: 8" block weight = 35 psf (Hollow)
 12" block weight = 50 psf (Hollow)

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 8"x8" Lintel with effective span of 48"
 Apex Load = $(.33) (W) (L) = .33 (35\text{psf}) (48'/12) = 46\#/\text{FT}$
 Capacity of 8x8 lintel with effective span of 48"
 (from load table for live loads) = 2988#/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.



10x8 "U" LINTELS		5,000 psi PRECAST BOND BEAM LINTELS										Self Weight 55#/ft														
1. Reinforcement rods (A _s)	Top	(2) #3																								
	Bottom	(2) #5																								
2. Nominal lintel length (inches)		32	40	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	24	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	32	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.)	3760	2820	2256	1961	1880	1735	1611	1555	1410	1289	1253	1187	1128	1100	1025	960	940	902	868	851	805	752	727	705	663
Factored Dead Load (1.4)	(lbs./ft.)	2685	2014	1611	1440	1342	1239	1150	1110	1007	921	895	848	805	785	732	685	671	644	620	608	575	537	519	504	474
Factored Live Load (1.7)	(lbs./ft.)	2212	1659	1327	1154	1106	1020	947	914	829	758	737	698	664	647	603	565	553	530	510	500	473	447	422	415	390
6. Maximum bending moment capacity M ₁	(ft.-lbs.)	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680	15680

Design Data

$f'_c = 5,000$ psi (minimum)
 $f_y = 60,000$ psi (per ASTM-A615)
 Average self weight per lineal foot of beam - 83 lbs (Grouted Solid)
 Seismic Capability
 Design formulas as per ACI 318-12
 $M_r =$ Moment governed by ultimate strength $= 0.9 (A_s)(f_y)(d-a/2)$
 $V_r =$ Shear governed by ultimate strength
 $M_r = 1/8 W_u (L_2)^2$
 $V_r = 1/2 W_u L_2$
 max = Maximum allowable deflection $= L_2/360 \leq 0.3"$
 UL Fire Ratings 1-1/2 hour

Typical Section:

Width (W) = 9'-5/8"
 Height (H) = 7'-6/25"
 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.

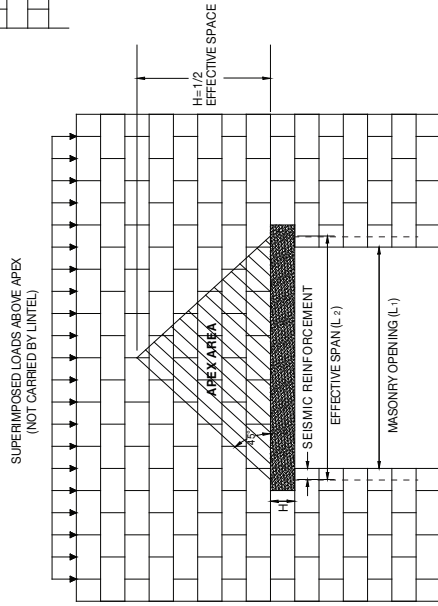
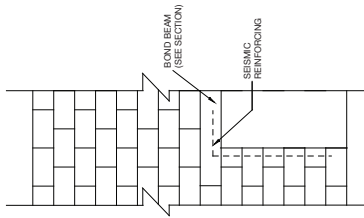
Hollow masonry block weights for determining uniform equivalent apex load on lintel:
 6" block weight = 30 psf (Hollow)
 12" block weight = 50 psf (Hollow)

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 10"x8" Lintel with effective span of 48"
 Apex Load = (.33 (W) (L) = .33 (60psf) (48"/12) = 80#FT
 Capacity of 10x8 lintel with effective span of 48"
 (from load table for live loads) = 1106#/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.



12x8 "U" LINTELS			5,000 psi PRECAST BOND BEAM LINTELS										Self Weight 70#/ft														
1. Reinforcement rods (A _s)		Top	(2) #3																								
		Bottom	(2) #5																								
2. Nominal lintel length (inches)			32	40	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	24	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	32	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.)	4435	3326	2661	2314	2217	2047	1900	1835	1663	1520	1478	1400	1330	1298	1209	1132	1108	1064	1023	1004	950	887	858	831	782
Factored Dead Load (1.4)		(lbs./ft.)	3167	2375	1900	1652	1583	1462	1357	1311	1188	1086	1056	1000	950	927	863	808	791	760	730	717	678	633	613	593	558
Factored Live Load (1.7)		(lbs./ft.)	2608	1956	1565	1361	1304	1204	1117	1079	978	894	869	823	782	763	711	665	652	626	602	590	559	522	505	489	460
6. Maximum bending moment capacity M ₁		(ft.-lbs.)	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000	16000

Design Data

$f'_c = 5,000$ psi (minimum)
 $f_y = 60,000$ psi (per ASTM-A615)
 Average self weight per linear foot of beam = 100 lbs (Grouted Solid) Seismic Capability
 Design formulas as per ACI 318-12
 $M_r =$ Moment governed by ultimate strength
 $V_r =$ Shear governed by ultimate strength
 $M_r = 1/8 W_u (L_2)^2$
 $V_r = 1/2 W_u L_2$
 max = Maximum allowable deflection = $L_2/360 \leq 0.3"$
 UL Fire Ratings 1-1/2 hour

Typical Section:

Width (W) = 11-5/8"
 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.

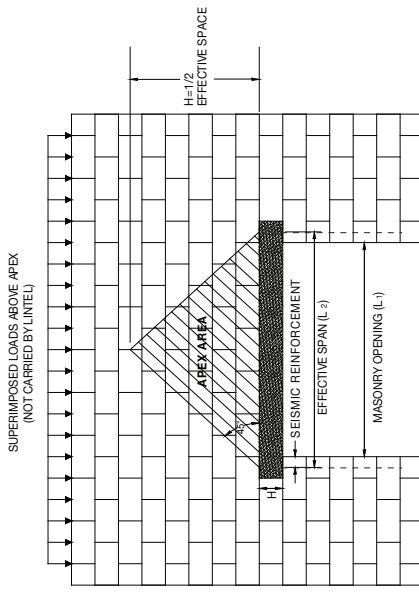
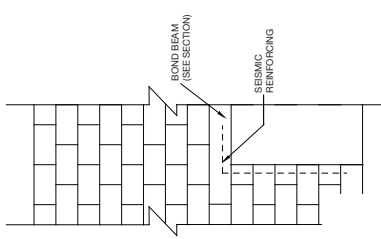
Hollow masonry block weights for determining uniform equivalent apex load on lintel: 6" block weight = 30 psf (Hollow)
 12" block weight = 50 psf (Hollow)

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 12"x8" Lintel with effective span of 48"
 Apex Load = (.33) (W) (L) = .33 (60psf) (48'/12) = 80#FT
 Capacity of 12x8 lintel with effective span of 48"
 (from load table for live loads) = 3330#/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.





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