

SHEET	
JOB NO:	
DATE:	

CMU SHEARWALL DESIGN

Eq or Wind ?	Wind	Eq. Zone :		f'm =	1900 psi	
Direction :	B	Ht. Applied		M/V/d =	2.00	
Lateral Load =	14000 lbs.			V =	14000 lbs.	
Lateral Load =	14.0 ft.			OTM =	196000 ft-lbs	
Lateral Load =				M _{NET} =	93405 ft-lbs	
Length of Wall =	7.33 ft.			Shear EST =	7.4 in.	
Uniform Dead Load =	5700 plf	Eccentricity		Intersecting Wall?		
Conc. Dead Load =						
Conc. Dead Load =						
Conc. Dead Load =						
Parapet =		Wt. Classification (L,M,H) :			M	
Total Height of Wall =	14.0 ft.	Wt. of Wall Finish/misc. =			N	
Eff. Height of Wall, h' =	14.0 ft.	Top of Wall Fixed ?			N/A	
Tension Reinf. F _y =	60 ksi	Shear Reinf. F _y =			Y	
CMU Thickness =	8 in.	Spec. Insp.?				
Wall Grout Spacing =	8 in.	Parapet Grout Spacing =				
Provide Shear Reinf. ?		NO ← Reinf. Req'd ?		f _v =	23.8 psi	
Space Shear Reinf at :		84 in. ← Max. spacing		F _v =	46.6 psi	
Select A _v (in. ²) =		0.00 ← Req'd A _v (in. ²)		f _s =	31.9 ksi	
Select A _t (in. ²) =		← Req'd A _t (in. ²)		F _s =	31.9 ksi	
Include Comp. Reinf. ?	Y	(Comp. Reinf. must be equal to tension reinf.)				
Override Calculated d ?		(Input actual "d", such as for two rows of steel)				
O.K.	Shear R =	0.511	Wall Wt. =	78 psf	Parapet Wt. =	0 psf
O.K.	Reinf. R =	0.999	f _A =	63 psi	f _B =	391 psi
O.K.	CMU R =	0.610	F _A =	442 psi	F _B =	834 psi

USE > 8" CMU Wall X 7.33 ft. w/

actor	Vol. E.S.T.	f _v	OTM	Total OTM	Total OTM	V	1.91	7.0
0.97	7.6	23.8	196000	196000	196000	14000	79	
(R)	L,R ←→	196000	196000	127662	196000	196000	29.8	

(L)	(Both) ←→	196000	196000	127662	196000
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Grout Spacing	Volume E.S.T.	Factor	Factor * EST	per RMD
Grout Spacing	CMU Nominal Width			
3rout	6	8	10	12
	8	5.6	7.6	9.6
	16	4.5	5.8	7.2
	24	4.1	5.2	6.3
	32	4.0	4.9	5.9
	40	3.8	4.7	5.7
	48	3.7	4.6	5.5
uted	56	3.4	4.0	4.7

b	d	Shear reinf	End Vert reinf	rho	n	n*rho
###	84.0	0.00	0.44	0.000687	20.4	0.013987
Incr.	133%	26600		31891	0.146	12.9
1.33	100%	20000		0	0.951	0
0.67	F _s	Eff. M _{IR}	Eff. M _{NET} (L)	Eff. M _{NET} (R)	k	f _s
###	31920	102595	93405	93405	0.154	31891
###	24000	Uplift (lbs.) =	14032		i	93405
		Uplift (lbs.) =	0		0.949	93405
###	F _B	f _s	r (CMU)	h/r	F _A (h/r<=99)	F _A (h/r>100)
###	834	391	2.19 in.	76.7	442	526
###	627	391			332	396

0.61	391	0 plf
0.61	391	0 plf

Roof Dead = 5700 plf

Radius of Gyration,

CMU Nominal Width

Grout Spacing	CMU Nominal Width	Factor	Factor * EST	per RMD
Grout Spacing	CMU Nominal Width			
3rout	6	8	10	12
	8	1.62	2.19	2.77
	16	1.79	2.43	3.04
	24	1.87	2.53	3.17
	32	1.91	2.59	3.25
	40	1.94	2.63	3.30
	48	1.96	2.66	3.33
uted	56	1.98	2.68	3.36

REMOVE 0"

0 psf	0 psf	0 psf
0 psf	0 psf	0 psf

Actual Parapet Wt. = 0 psf

Wall + Finish = 0 psf

Actual Wall Wt. = 78 psf

Light weight CMU, psf for finished wall

Weight of wall

Grout Spacing	CMU Nominal Width	Factor	Factor * EST	per RMD
Grout Spacing	CMU Nominal Width			
3rout	6	8	10	12
	8	52	75	93
	16	41	60	69
	24	37	55	61
	32	36	52	57
	40	35	50	55
	48	34	42	53
uted	56	26	33	36

Wt of parapet

0 psf

Medium weight CMU, psf for finished wall

Weight of wall

Grout Spacing	CMU Nominal Width	Factor	Factor * EST	per RMD
Grout Spacing	CMU Nominal Width			
3rout	6	8	10	12
	8	58	78	98
	16	47	63	80
	24	43	58	72
	32	42	55	68
	40	41	53	66
	48	40	45	64
uted	56	32	37	41

Wt of parapet

0 psf

Heavy weight CMU, psf for finished wall

Weight of wall

Grout Spacing	CMU Nominal Width	Factor	Factor * EST	per RMD
Grout Spacing	CMU Nominal Width			
3rout	6	8	10	12
	8	63	84	104
	16	52	66	86
	24	48	61	78
	32	47	58	74
	40	46	56	72
	48	45	55	70
uted	56	37	42	47

Wt of parapet

0 psf