

File: EDL 3-3-3 Mild Example.W12 Name:
Job No: Mark: Designer:

SECTION DIMENSIONS:

Top Wythe: Width = 16 in	Thickness = 3 in	Main Structural Wythe: Top	No. of Wythes = 2
Bot Wythe: Width = 16 in	Thickness = 3 in	Member Height = 368 in	Insulation Thk = 3 in
Insulation Start from Top = 0 in		Insulation Stop from Bottom = 0 in	
Bott Wythe (no rvls/opngs): Area = 48 in2	M of I = 36 in4	Centroid from Bottom = 1.50 in	
Comp. @ Midp (w/rvls/opngs): Area = 96 in2	M of I = 936 in4	Centroid from Bottom = 4.50 in	

MATERIALS:	F'c (psi)	Ec (ksi)	F'ci (psi)	Eci (ksi)	Conc Wt (pcf)	
Top Wythe:	6000	4463	3500	3409	150.0	Superimposed Load = 0.0 psf
Bot Wythe:	6000	4463	3500	3409	150.0	Average Relative Humidity = 70 %
Fy, Reinf Bar Grade = 60 ksi			Fy - WWF Grade = 80 ksi		Fpu, Strand = 270 ksi	Lo-Lax = Yes

REBAR ROWS:	A	B	C	D	E	F	G	H
Bar Diam(in) =	0.625	0.625						
No. Bars in Row =	1	1						
Cent frm Bot/Sect(in) =	1.50	7.50						
Start frm Bot/Wall(in) =	0.00	0.00						
End frm Top/Wall(in) =	0.00	0.00						
Bar Dev Length Mult =	1	1						

REBAR LOCATIONS FROM LEFT:

Row A	8.00
Row B	8.00

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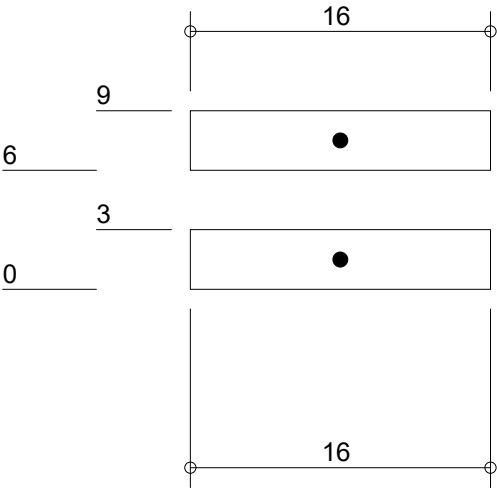
Coefficients:

Initial prestress loss = 0.00% (Calculated)
Outside temp, deg F: 75 Inside: 75

Cracking stress coefficient: 7.500
Inside horiz. surcharge at floor or grade, psf: 0.0
Inside active lateral earth pressure, psf/ft: 0.0
Inside dist. from base to top of retained earth, in: 0.00
Strand dev. length mult. at ends = 1 , at openings = 2
Main structural wythe is inside
Floor tie active for load cases with earth pressure

Final prestress loss = 0.00% (Calculated)
Initial member bow at midheight, in: 0
Seismic coefficient, % = 0
Slenderness effects are included
Outside horiz. surcharge at floor or grade, psf: 0.0
Outside active lateral earth pressure, psf/ft: 0.0
Outside dist. from base to top of retained earth, in: 0.00

Beam-Spring partial composite method used



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SUPPORT LOCATIONS, INCHES: SPRING CONSTANTS, INCHES/KIP:

Top support location from top of member, in: 0.00 0
Slab-on-grade connection location from bottom, in: 0.00 0
Panel is supported at the base from both wythes.

WIND LOAD:	Suction		Pressure		Start	Stop
	psf	plf	psf	plf	(elev. from bot., in)	
Row 1	35	46.67	35	46.67	0.00	368.00

CONCENTRATED VERTICAL LOADS, KIPS:

	Pv Location	Eccentricity	Dead	Live	Roof	Wind	Bearing Wythe
	(from bottom, in.)	(from inside face, in.)					
Row 1	360.00	6.00	2.00	0.00	2.00	0.00	Both

PARTIAL COMPOSITE CONNECTORS:

Critical span length, in: 368	Connector force at elastic limit, Fe, k: 2.000
No. of connectors per lateral row: 1	Connector elastic stiffness, Ke, k/in: 33.33
Additional connectors in first row: 0	Connector force at ultimate limit, Fu, k: 4.000
Additional connectors in second row: 0	Connector inelastic stiffness, Kie, k/in: 14.29
Additional connectors in third row: 0	Connector elastic limit, DeltaE, in: 0.06
Longitudinal connector row spacing, in: 16.00	Connector inelastic limit, DeltaU, in: 0.2

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LOAD CASE 4 ACI 318-14/19 5.3.1d Wind+Live:

Suction at 182.16 in:

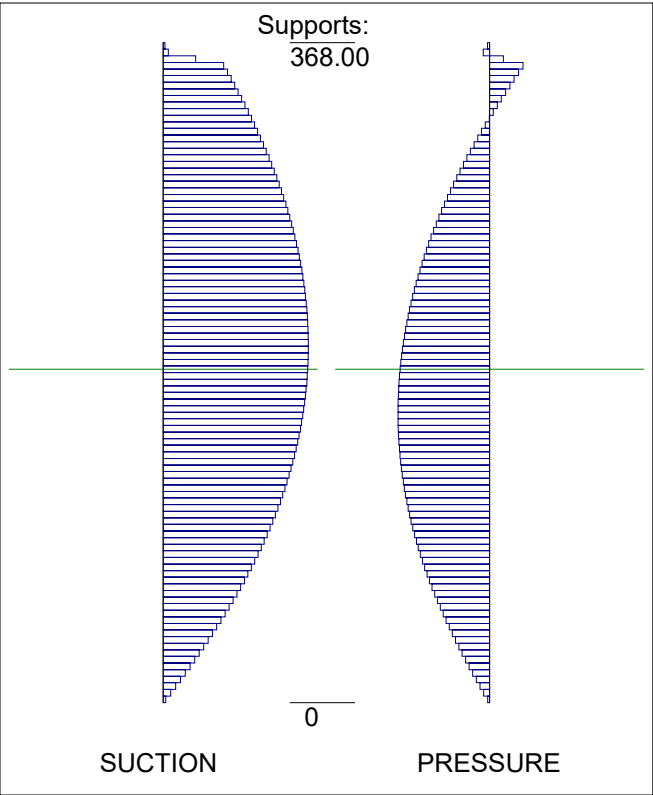
Pu (kips) = 5.24
Mu (kip-in) = 106.26
Outer Stress (psi) = 702.71
Inner Stress (psi) = -811.60
SECTION IS CRACKED
Bow + Defl (in) = 4.37
(Outward deflection is positive)
Force in 368 in. Conn. in Kips = 0.68
Force in 0 in. Conn. in Kips = 0.75
(Compression is Negative)

Pressure at 182.16 in:

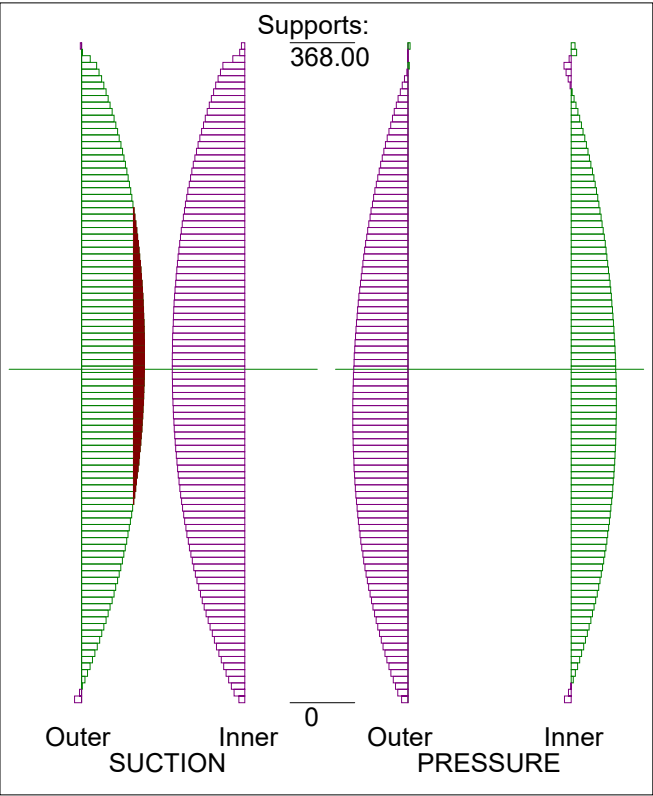
Pu (kips) = 5.24
Mu (kip-in) = -65.84
Inner Stress (psi) = 498.90
Outer Stress (psi) = -607.70
Section is pre-cracked
Bow + Defl (in) = -3.49
(Outward deflection is positive)
Force in 368 in. Conn. in Kips = -0.86
Force in 0 in. Conn. in Kips = -0.57
(Compression is Negative)

Percent composite at ultimate: 100.00
Percent composite for stresses: Calced
Percent composite for deflection: Calced
Cracking stress coefficient: 7.500
Slenderness effects are included

MAGNIFIED MOMENT



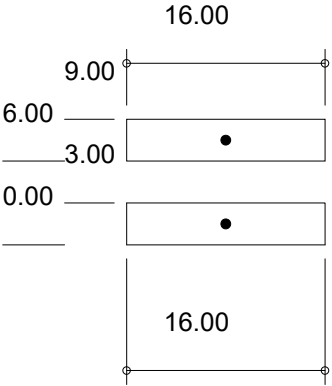
STRESSES



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LOAD CASES:

- 1 ACI 318-14/19 5.3.1a Dead
- 2 ACI 318-14/19 5.3.1b Live+T+Earth
- 3 ACI 318-14/19 5.3.1c Live+Roof+Earth
- 4 ACI 318-14/19 5.3.1d Wind+Live
- 5 ACI 318-14/19 5.3.1e Live+Seismic
- 6 ACI 318-14/19 5.3.1f Wind+Earth
- 7 ACI 318-14/19 5.3.1f Wind Only
- 8 ACI 318-14/19 5.3.1c Roof+Wind
- 9 ACI 318-14/19 5.3.1g Seismic Only
- 10 Service Dead + Temp
- 11 Service Dead + Live, ASCE 7-10/16 2.4.1-2
- 12 Service D + L + R, ASCE 7-10/16 2.4.1-4
- 13 Service Dead + Wind, ASCE 7-10/16 2.4.1-5
- 14 User Defined

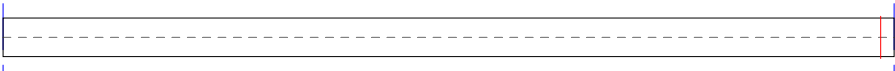


ACI 318 Phi factors used Panel is pre-cracked

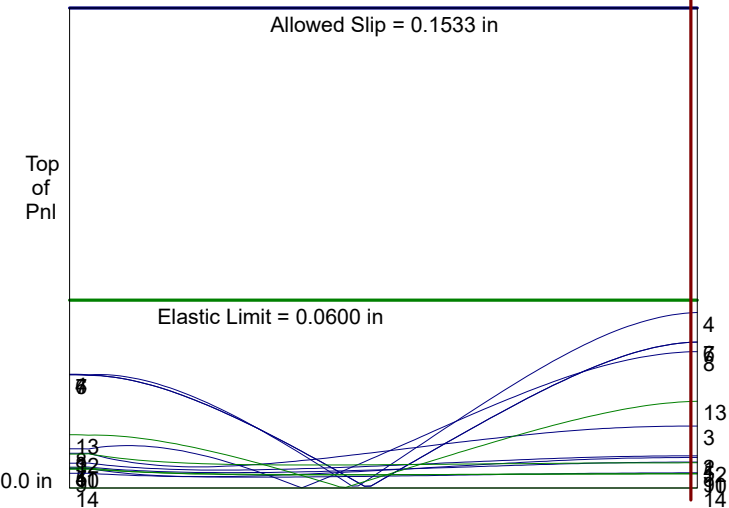
Wythe Connector Slip Values:

Load Case	Suction Slip	Allowed Slip	Pressure Slip	Load Case	Suction Slip	Allowed Slip	Pressure Slip
1	0.0097	0.1533		2	0.0103	0.1533	
3	0.0198	0.1533		4	0.0560	0.1533	0.0395
5	0.0083	0.1533	0.0051	6	0.0466	0.1533	0.0383
7	0.0466	0.1533	0.0383	8	0.0435	0.1533	0.0144
9	0.0048	0.1533	0.0034	10	0.0045	0.0600	
11	0.0046	0.0600		12	0.0081	0.0600	
13	0.0276	0.0600	0.0190	14	0.0000	0.0600	0.0000

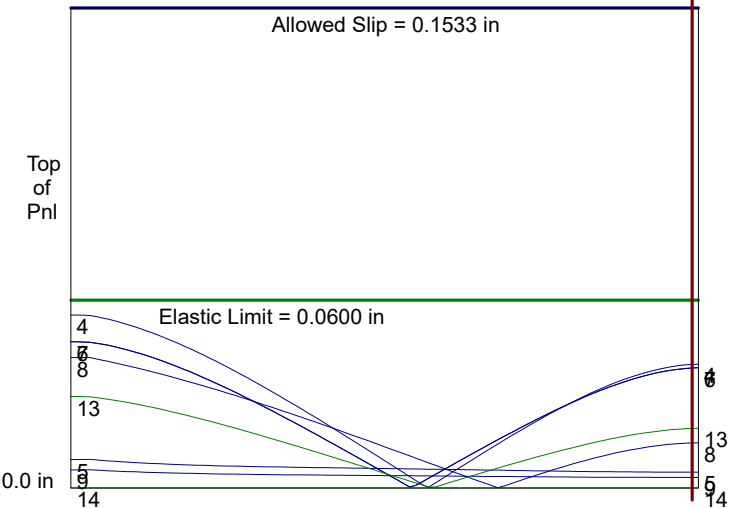
Section cut location from
top end (in) = 362.48



Wythe Connector Slip - Suction:



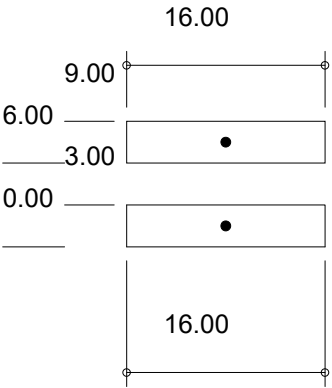
Wythe Connector Slip - Pressure:



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- 3 ACI 318-14/19 5.3.1c Live+Roof+Earth
- 4 ACI 318-14/19 5.3.1d Wind+Live
- 5 ACI 318-14/19 5.3.1e Live+Seismic
- 6 ACI 318-14/19 5.3.1f Wind+Earth
- 7 ACI 318-14/19 5.3.1f Wind Only
- 8 ACI 318-14/19 5.3.1c Roof+Wind
- 9 ACI 318-14/19 5.3.1g Seismic Only
- 10 Service Dead + Temp
- 11 Service Dead + Live, ASCE 7-10/16 2.4.1-2
- 12 Service D + L + R, ASCE 7-10/16 2.4.1-4
- 13 Service Dead + Wind, ASCE 7-10/16 2.4.1-5
- 14 User Defined



ACI 318 Phi factors used Panel is pre-cracked

Axial Tension Check - Outer Wythe Only:

	<u>Pu-S</u>	<u>Mu-S</u>	<u>Phi-Tn S</u>	<u>Pu-P</u>	<u>Mu-P</u>	<u>Phi-Tn P</u>		<u>Pu-S</u>	<u>Mu-S</u>	<u>Phi-Tn S</u>	<u>Pu-P</u>	<u>Mu-P</u>	<u>Phi-Tn P</u>
1	-0.98	0.35	-16.57			-16.57	2	-1.20	0.40	-16.57			-16.57
3	-3.39	0.71	-16.57			-16.57	4	-14.10	1.19	-16.57	12.80	-3.09	-16.57
5	-0.77	0.32	-16.57	0.11	0.16	-16.57	6	-12.03	1.03	-16.57	11.90	-2.95	-16.57
7	-12.03	1.03	-16.57	11.90	-2.95	-16.57	8	-10.15	1.35	-16.57	6.23	-1.06	-16.57
9	-0.26	0.18	-16.57	0.14	0.11	-16.57	10	0.05	0.44	-16.57			-16.57
11	0.04	0.45	-16.57			-16.57	12	-0.52	0.81	-16.57			-16.57
13	-5.23	5.33	-16.57	5.42	-4.55	-16.57	14	0.00	0.00	-16.57	0.00	0.00	-16.57

Section cut location from
top end (in) = 182.16

Compr. face not reversed.

