Horizontal Monotube Analysis

E = 29000 ksi (Young's Modulus)
k chord = 1.00

	Mvert.	Mhoriz.	SHEAR Horizontal	SHEAR Vertical	Max Axial
	kip-ft	kip-ft	kips	kips	Kips
Section 1	47.49	113.18	4.99	2.43	5.31
Section 2	0.00	0.00	0.00	0.00	5.31

Local Buckling AASHTO 5.5							
Section 1							
Outside Dia. (inches)	Wall Thick. (inches)	Yield Str. (ksi)	λ	λp	λr	λmax	Result
4.000	0.23	42.0	17.70	86.9	180.6	309.5	Compact

Local Buckling AASHTO 5.5							
Section 2							
Outside Dia. (inches)	Wall Thick. (inches)	Yield Str. (ksi)	λ	λp	λr	λmax	Result
4.000	0.23	42.0	17.70	86.9	180.6	309.5	Compact

λ width-thickness ratio
λp compact width-thickness ratio
λr non-compact width-thickness ratio
λmax maximum width-thickness ratio
E 29000 ksi (Young's Modulus)

Section 1					
Unbraced Length (in.)	Pipe Diameter (in.)	Wall Thickness (in.)	Pipe Area (in.^2)	Chord Yield Str. (ksi)	kL/Rmin
72.0	4.000	0.226	2.68	42.0	53.95

Section 2					
Unbraced Length (in.)	Pipe Diameter (in.)	Wall Thickness (in.)	Pipe Area (in.^2)	Chord Yield Str. (ksi)	kL/Rmin
72.0	4.000	0.226	2.68	42.0	53.95

GROUP 1		BENDING AND SHEAR STRESSES									
		Mmax kip-ft	S in^3	fb ksi	Shear kips	Pipe Area in^2	fv ksi	Axial kips	Area y in^2	fa ksi	
	Section 1	122.74	97.26	15.14	5.55	2.68	2.07	5.31	2.68	1.98	
	Section 2	0.00	97.26	0.00	0.00	2.68	0.00	5.31	2.68	1.98	
		RESULTS									
		Fb ksi	Fv ksi	Fa ksi	Cc	R	KL/R	Fe'	Eqn. 5-17 CSR	Eqn. 5-18 CSR	Eqn. 5-19 CSR	**MAX CSR**
	Section 1	27.72	13.86	21.75	116.75	1.33	53.95	51.30	0.647	0.715	0.660	0.715
	Section 2	27.72	13.86	21.75	116.75	1.33	53.95	51.30	0.079	0.091	0.091	0.091

				Fb Calculation		
Section 1	Term 1	Term 2	Term 3	Compact (ksi)	Non-Compact (ksi)	Slender
Eqn. 5-17	0.079	0.546	0.022			
Eqn. 5-18	0.091	0.601	0.022			
Eqn. 5-19	0.091	0.546	0.022			
Section 2	Term 1	Term 2	Term 3			
Eqn. 5-17	0.079	0.000	0.000			
Eqn. 5-18	0.091	0.000	0.000	27.72	72.09	72.09
Eqn. 5-19	0.091	0.000	0.000	27.72	72.09	72.09

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