


ANALYSIS OF TOP ANCHORED HARD CONNECTED PIPE SYSTEM (CONCENTRATED HYD LOAD AT BASE)

SUITABLE FOR EXPANSIVE SYSTEMS, DO NOT USE ON CONTRACTIVE SYSTEMS

		KINETICS NOISE CONTROL, INC. 6300 IRELAN PLACE DUBLIN, OHIO 43017 614-889-0480																
		Project: TOP ANCHORED HARD CONNECTED (TYPE 1) Riser: TYPICAL RISER 3/12/2006																
Note: Supports are assumed to be at floor level, if at ceiling level, identify as being on floor above																		
Expansion Coef 7.60E-05 in/ft/degF Installed Temp 70 Oper Temp 91 Anchor Elevation 72 (If Anchored System) Anchor Type FX (Fixed-FX or Floating FL) Static Head 0 (Ft at top of pipe) Water Supported Y (Y or N) Is water column weight supported by Riser? Hyd Lift @ Top Y If an Intermediate Riser section with telescoping Coupling at top, Enter "N" otherwise enter "Y" Liq or Gas Piping L (L or G) Is the pipe filled with water or gas? Steam Pressure 0 (Enter a value only if steam pressure is present (psi))																		
Indicate Support locations with a "Y" and guide locations with a "G" in the Support Location Column. Restrained Spring isolators such as FRS are indicated with an "R" under "Support/Res" + Force loads are Tension, - Force loads are Compression (in pipe) "*" indicates no supports above this point																		
Floor (Ref)	Support Loc	Res	Floor Ht Ft	Floor Elev Ft	Pipe Size in	Local Pipe Wt (lb)	Local Liquid Wt (lb)	Init Support Pt Load From Pipe Wt(Lb)	Hyd Thrust Pipe Lift is + (lb)	Spring Rate Lb/in	Init Defl In	Init Supt Pt Force Lbs	Oper Sprng Defl or Disp +is Down in	Oper Supt Pt Load Lbs	Init Tens Pipe Force Lbs	Oper Tens Pipe Force Lbs	Initial Pipe Stress PSI	Combined Burst+ Tens Oper Stress PSI
Roof				82.01				0	0			0		0	0	0		
10	-			82.01				0	217			0	-0.02	0	0	0		
9	A		10.00	72.01	8			0	0			0		0	-286	-69	34	47
8			10.00	62.01	8			286	0			1327	0.02	465	756	111	90	94
7	Y		10.00	52.01	8			571	0	500	0.88	440	0.91	456	910	281	108	144
6			10.00	42.01	8			0	0			0		0	625	-4	74	186
5	Y		10.00	32.01	8			690	621	250	0.50	125	0.56	141	464	472	55	239
4			10.00	22.01	10			0	0			0		0	60	67	5	357
3	Y		10.00	12.01	10			810	0	1000	0.75	750	0.85	846	405	508	34	418
2			10.00	2.01	10			0	0			0		0	0	103	0	476
1	Y	R	2.00	0.01	10			81	0	3000	0.81	81	0.92	2775	0	2797	0	541
0			0.01	0	10			0	-2797			0	0.11	0	0	0	0	487

Critical Buckling Load for piping -23254 lb

SAMPLE 8 STORY RISER WITH ANCHOR AT THE TOP AND NON-VERTICALLY RESTRAINED INTERMEDIATE ISOLATORS ON 3, 5, 7 AND 9TH FLOORS AND A VERTICALLY RESTAINED ISOLATOR AT THE BASE

NOTE LOW STRESSES IN PIPE AND CONCENTRATED HYDRAULIC LOAD (2775 LB) AT BOTTOM ISOLATOR LOCATION

KINETICS™ Riser Design Manual

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DOCUMENT:
R2.2
