

PIPEMILL - Piping Engineering, Design and Analysis

Version: 3.00 Full Run

PIPE SPAN CHART

Calculation by: _____

Checked by: _____

Wednesday, May 28, 2008

File Name: e:\Files\Spancalc-001.spn

Project / Description

Calculation Details

PIPE SPEC NAME: 1C5A

INPUT DATA:

Pipe description:	A106 Gr. B	Insulation Type:	Rockwool	Cladding Type:	St. Stl.
Pipe Density:	7850 kg/m ³	Insulation Density:	140 kg/m ³	Cladding Density:	8000 kg/m ³
Corrosion Allw.:	1.5 mm	Insulation Thickness:	50 mm	Cladding Thickness:	0.8 mm
Tolerance:	12.5 %				
Allowable Stress Sh:	137.89 MPa	Suppt. Contact Length:	300 mm	Fluid Density:	1000 kg/m ³
Tolerance:	12.5 %	Suppt. Contact Width:	10 mm	Max Mid-span Defl.:	12.5 mm
Young's Modulus Eh:	203390 MPa				

ALLOWABLE PIPE SPANS

Nom. Pipe Size (in)	Out. Dia. mm	Wall Thk. mm	Pipe Only (m)	Pipe + Insul (m)	Pipe + Contents (m)	Pipe + Insul. + Contents (m)
0.5	21.336	4.775	3.111 ~	1.961 *	3.069 ~	1.943 *
0.75	26.670	5.563	3.526 ~	2.510 *	3.470 ~	2.477 *
1.0	33.401	4.547	3.913 ~	2.801 *	3.784 ~	2.721 *
1.5	48.260	5.080	4.783 ~	3.859 *	4.559 ~	3.666 *
2	60.325	3.912	5.188 ~	3.974 *	4.772 ~	3.636 *
3	88.900	5.486	6.593 ~	5.854 ~	6.037 ~	5.299 *
4	114.300	6.020	7.555 ~	6.834 ~	6.815 ~	6.178 *
6	168.275	7.112	9.313 ~	8.622 ~	8.206 ~	7.706 *
8	219.075	8.179	10.740 ~	10.077 ~	9.326 ~	8.918 *
10	273.050	9.271	12.086 ~	11.448 ~	10.373 ~	10.027 *
12	323.850	9.525	13.198 ~	12.540 ~	11.115 ~	10.654 *
14	355.600	9.525	13.840 ~	13.162 ~	11.499 *	10.932 *
16	406.400	9.525	14.810 ~	14.100 ~	11.846 *	11.316 *
18	457.200	9.525	15.720 ~	14.980 ~	12.136 *	11.638 *
20	508.000	9.525	16.580 ~	15.811 ~	12.383 *	11.913 *
22	558.800	9.525	17.398 ~	16.600 ~	12.596 *	12.151 *
24	609.600	9.525	18.179 ~	17.354 ~	11.183 ^	10.457 ^
26	660.400	9.525	18.928 ~	18.076 ~	9.365 ^	8.794 ^
28	711.200	9.525	19.648 ~	18.770 ~	7.938 ^	7.481 ^
30	762.000	9.525	20.343 ~	19.440 ~	6.799 ^	6.429 ^

Limit Symbols: * = limited by bending stress.

~ = limited by deflection.

^ = limited by local indentation.

Results based on beam equations representing end conditions between simply supported and fully fixed ends as recommended in Section 8 of Kellogg Design of Piping Systems.