

TUBE CONFIGURATION (External Pressure)

Inner Diameter : 13.626 in  
 Outer Diameter : 14.000 in  
 Wall Thickness : 0.18700 in  
 Tube Length : 48.000 in

Weight in air : 18.541 lbs  
 Weight in water: -255.15 lbs

Failure Mode: Thin Wall Buckling at 12.276 Ft (fresh) by 3 nodes

Shell failure at 371.75 Ft (fresh) (Thin wall eq's)  
 Seat failure N/A  
 Shear failure N/A

PLASTIC, POLYVINYL CHLORIDE (PVC) Properties:

Ultimate Strength : 6 Ksi  
 Working Strength : 0.6 Ksi  
 Elastic Modulus : 0.35 Mpsi  
 Density : 0.0476 lb/cu in  
 Poisson's Ratio : 0.36  
 Comments :  
 Molded or Extruded, Rigid  
 Compressive Ultimate Strength = 8 Ksi

Tube distortion values:

Pressure Ksi	Depth Ft (sea)	Max Axial Stress, Ksi	Max Hoop Stress, Ksi	Max Equiv Stress, Ksi
0.00010000	0.22523	-0.0018467	-0.0036933	N/A
0.00020000	0.45045	-0.0036933	-0.0073866	N/A
0.00030000	0.67568	-0.0055400	-0.011080	N/A
0.00040000	0.90090	-0.0073866	-0.014773	N/A
0.00050000	1.1261	-0.0092333	-0.018467	N/A
0.00060000	1.3514	-0.011080	-0.022160	N/A
0.00070000	1.5766	-0.012927	-0.025853	N/A
0.00080000	1.8018	-0.014773	-0.029547	N/A
0.00090000	2.0270	-0.016620	-0.033240	N/A
0.0010000	2.2522	-0.018467	-0.036933	N/A
0.0011000	2.4775	-0.020313	-0.040626	N/A
0.0012000	2.7027	-0.022160	-0.044320	N/A
0.0013000	2.9279	-0.024007	-0.048013	N/A
0.0014000	3.1531	-0.025853	-0.051706	N/A
0.0015000	3.3784	-0.027700	-0.055400	N/A
0.0016000	3.6036	-0.029547	-0.059093	N/A
0.0017000	3.8288	-0.031393	-0.062786	N/A
0.0018000	4.0540	-0.033240	-0.066480	N/A
0.0019000	4.2793	-0.035086	-0.070173	N/A
0.0020000	4.5045	-0.036933	-0.073866	N/A

## Tube distortion values:

d ID Inches	d OD Inches	d Length Inches
-0.00011952	-0.00011952	-0.000070912
-0.00023905	-0.00023905	-0.00014182
-0.00035857	-0.00035857	-0.00021273
-0.00047809	-0.00047809	-0.00028365
-0.00059761	-0.00059761	-0.00035456
-0.00071714	-0.00071714	-0.00042547
-0.00083666	-0.00083666	-0.00049638
-0.00095618	-0.00095618	-0.00056729
-0.0010757	-0.0010757	-0.00063820
-0.0011952	-0.0011952	-0.00070912
-0.0013147	-0.0013147	-0.00078003
-0.0014343	-0.0014343	-0.00085094
-0.0015538	-0.0015538	-0.00092185
-0.0016733	-0.0016733	-0.00099276
-0.0017928	-0.0017928	-0.0010637
-0.0019124	-0.0019124	-0.0011346
-0.0020319	-0.0020319	-0.0012055
-0.0021514	-0.0021514	-0.0012764
-0.0022709	-0.0022709	-0.0013473
-0.0023905	-0.0023905	-0.0014182