2.092/2.093

COMPUTER METHODS IN DYNAMICS

FALL 2006

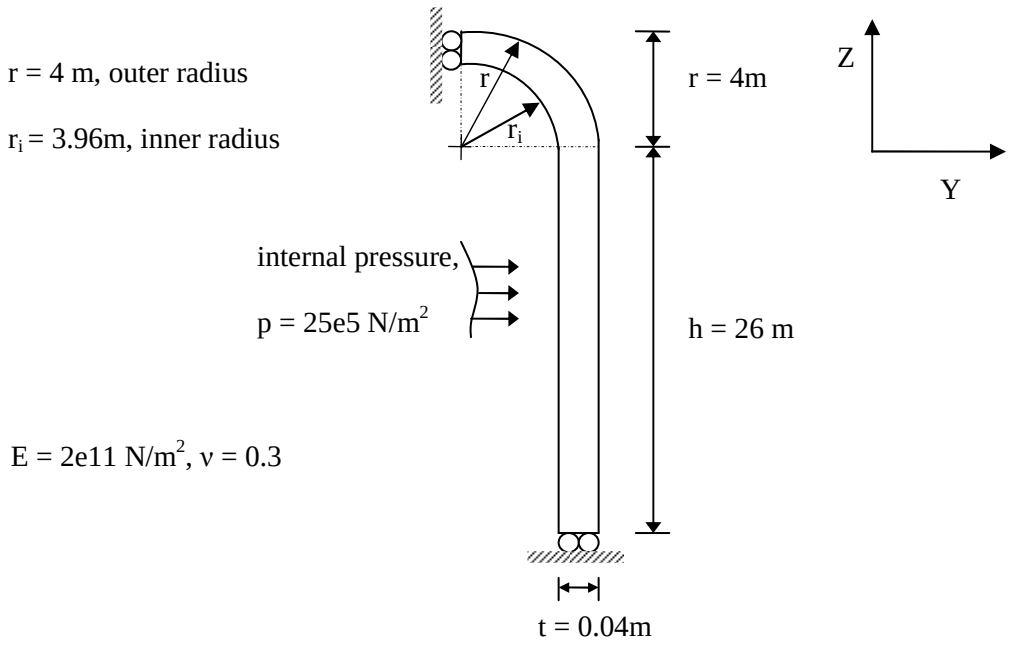
Homework 4

Instructor:	Prof. K. J. Bathe	Assigned:	Thurs., Oct 5
TA:	Samar Malek	Due:	Thurs., Oct 12

Problem 1 (20 points):

A pressure vessel is to be analyzed. Consider the axisymmetric, mathematical model shown below.

The geometry is defined as follows:



Solve this problem with ADINA. Use about a 1x100 nine-node element mesh.

a) Calculate the displacements, stresses, and make band plots.
b) Show that your results make sense (that is, compare the finite element solution results with hand calculations on a simplified model, check the reactions, make your suggestion).

Problem 2 (10 points):

Exercise 4.15, textbook p. 221.