

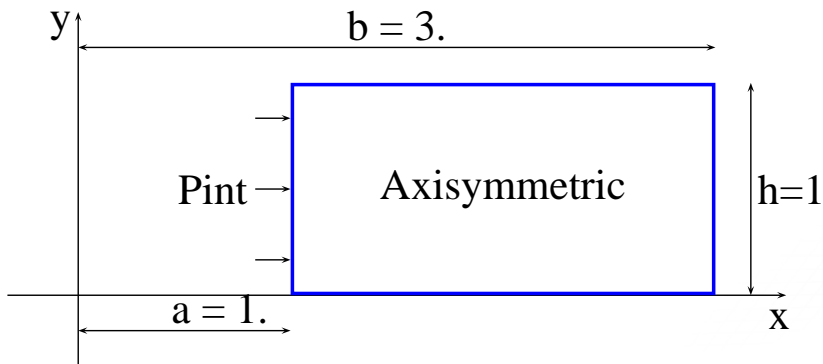
Z-set FE solver tutorial

Limit load of a tube under internal pressure

December 11, 2017



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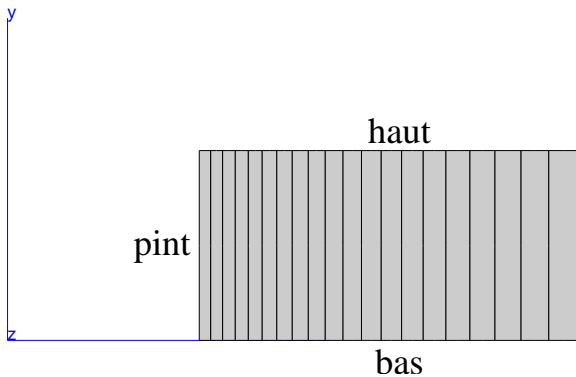


plastic material with initial yield R_0

$$\text{Limit load: } P_{int}^* = \frac{2}{\sqrt{3}} R_0 \log\left(\frac{b}{a}\right) = 126.86 \text{ MPa}$$

Meshing of the tube

- o clean_old_geometry
- o do the following mesh using Zmaster



no success ? get the geometry !

- o open terminal

Run the simulation under displacement control

- o material file `edit` `reset`
- o input file `edit` `reset`
- o run the simulation
- o view results with Zmaster
- o draw limit load
- o non convergence ? add tangent matrix evaluation !
replace `*algorithm eeeeeee` by `*algorithm p1p2p3`
`do it for me`
- o want faster convergence ?
add `**init_d_dof` `do it for me`
- o open terminal

Run the simulation under load control

- o material file `edit` `reset`
- o input file `edit` `reset`
- o run the simulation
- o view results with Zmaster
- o draw limit load
- o non convergence ?
add `**automatic_time` `do it for me`
- o open terminal