

First name and last name:

Compare results of the models built with the same mesh density (ESIZE parameter see p.12) using:

- 20-noded elements (Solid1865) using ‘sweeping’ HEX/WEDGE option (**Model 1**),
- 8-noded elements (Solid185) using ‘sweeping’ HEX/WEDGE option (**Model 2**),
- 8-noded elements (Solid185) using ‘free meshing’ TETRA option (**Model 3**).

Put the results in the **table** for each model:

No. of nodes, No. of elements, $USUM_{max}$, $SEQV_{max}$, $SX_{RSYS=1}$, $SY_{RSYS=1}$ for points: A,B,C i D and maximum Membrane and Bending SEQV stress on path EF (step 35).

Discuss the results.

	Model 1 Solid186 Hex/Wed	Model 2 Solid185 Hex/Wed	Model 3 Solid185 Free		
No. of nodes				Plots needed (should be archived during program session for each model) : 1) FE mesh 2) USUM(x,y) 3) SEQV(x,y) 4) SX(x,y) _{RSYS=1} 5) SY(x,y) _{RSYS=1} 6) Graph: SX(x,y) _{RSYS=1} i SY(x,y) _{RSYS=1} on path AB 7) Graph: SX(x,y) _{RSYS=1} i SY(x,y) _{RSYS=1} on path CD 8) Graph of linearized SEQV on path EF Report finaly: Final report: 1) Introduction 2) Assumptions for the modeling 3) model description (solid model, mesh, boundary cond. and loads) 4) Results 5) Results in the Table 6) Discursion 7) Conclusion	
No. of elements					
$USUM_{max}$					
$SEQV_{max}$					
$SX^A_{RSYS=1}$					
$SY^A_{RSYS=1}$					
$SX^B_{RSYS=1}$					
$SY^B_{RSYS=1}$					
$SX^C_{RSYS=1}$					
$SY^C_{RSYS=1}$					
$SX^D_{RSYS=1}$					
$SY^D_{RSYS=1}$					
Max Membrane + Bending stress					
from Lamé theorem (for inside pressure): $\sigma_r = \frac{p_a \cdot a^2}{b^2 - a^2} \cdot \left(1 - \frac{b^2}{r^2}\right) \quad \sigma_t = \frac{p_a \cdot a^2}{b^2 - a^2} \cdot \left(1 + \frac{b^2}{r^2}\right)$					
$\sigma_r(a) =$					
$\sigma_t(a) =$					
$\sigma_r(b) =$					
$\sigma_t(b) =$					

Conclusion: