



Helium vessel – FE calculations

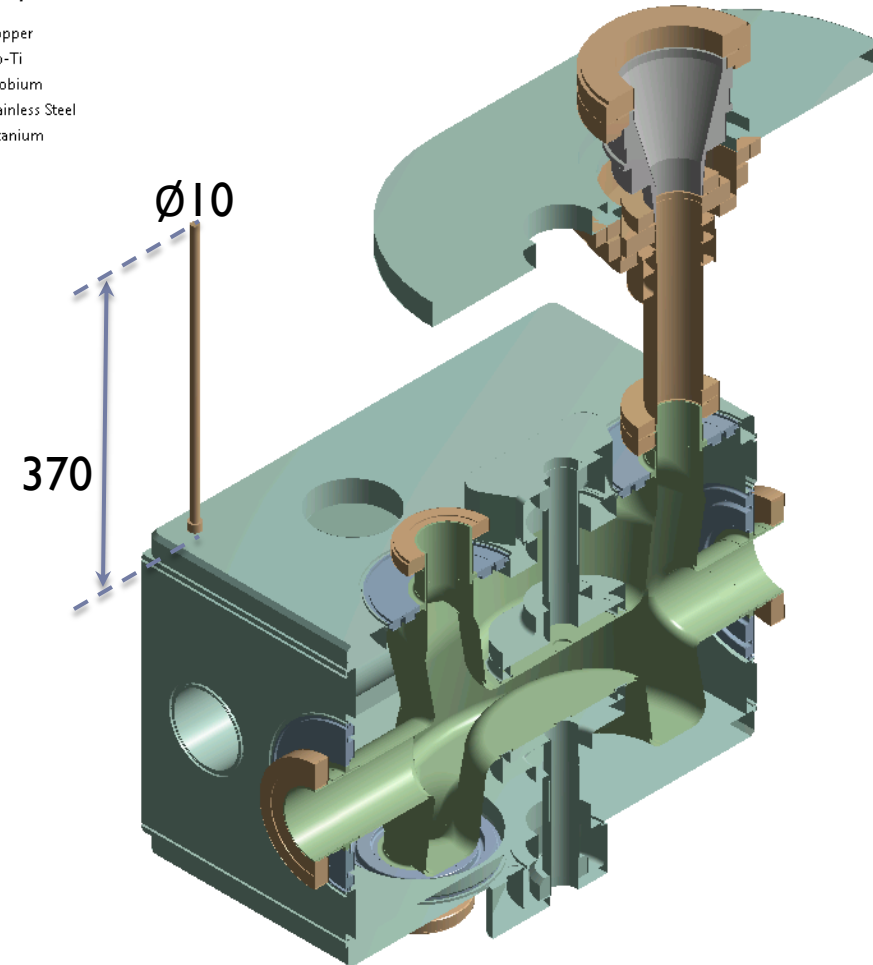
December 9th 2014

Norbert Kuder, EN/MME/DI

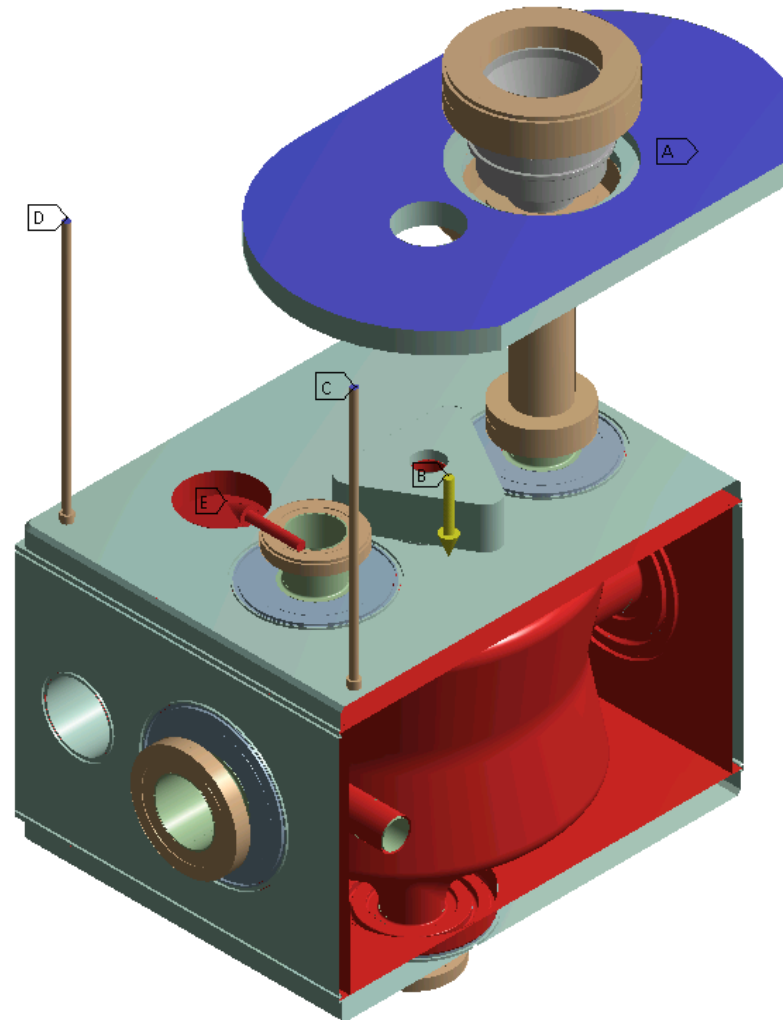
| Material | Young's modulus [GPa] | Poisson's ratio | Density [kg/m ³] |
|---------------------------|-----------------------|-----------------|------------------------------|
| Niobium [1] | 103 | 0.38 | 8600 |
| Stainless Steel 316LN [1] | 196 | 0.27 | 7950 |
| Titanium Gr.2 [2] | 102 | 0.34 | 4510 |
| 55Ti-45Nb [3] | 73 | 0.38 | 6360 |
| Copper [1] | 115 | 0.34 | 8930 |

Geometry

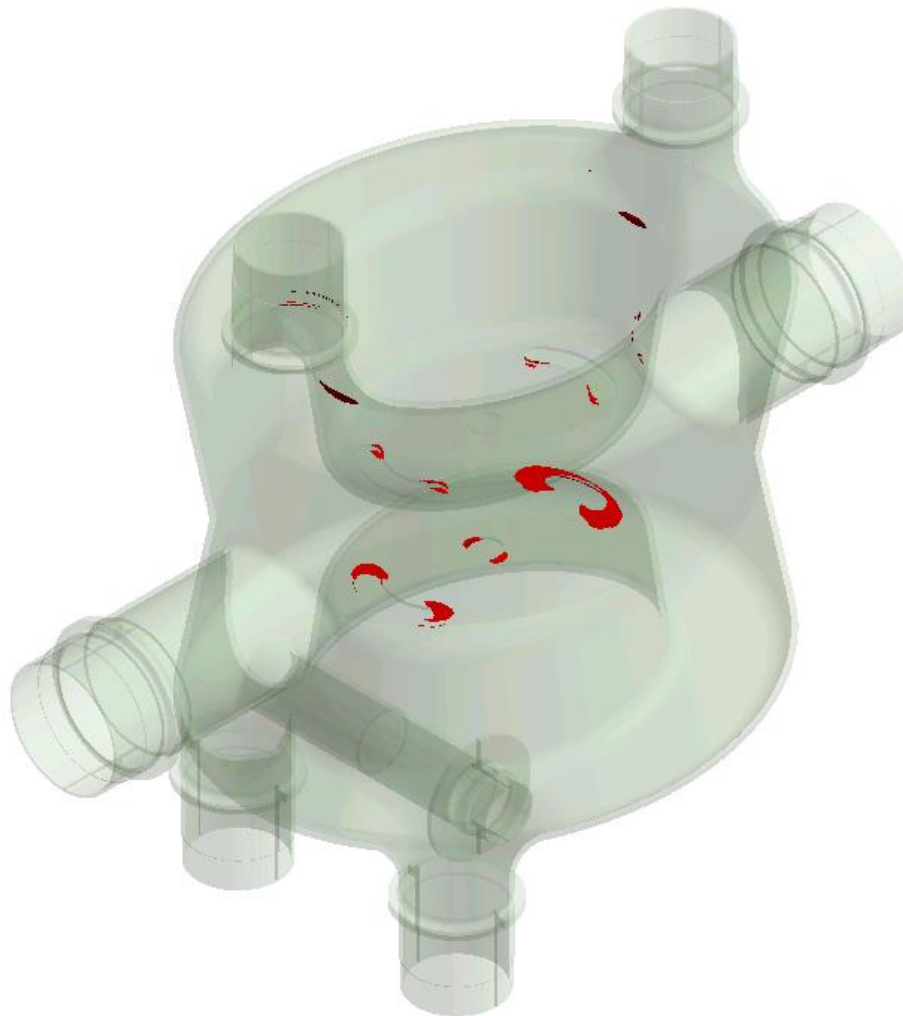
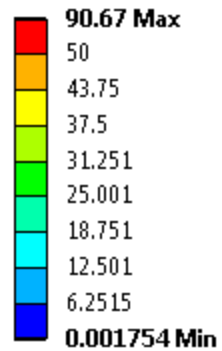
- Copper
- Nb-Ti
- Niobium
- Stainless Steel
- Titanium



- A** Fixed Support
- B** Standard Earth Gravity: 9806.6 mm/s²
- C** Fixed Support 2
- D** Fixed Support 3
- E** Pressure: 0.18 MPa



Type: Stress Intensity
Unit: MPa
Time: 1



Type: Stress Intensity

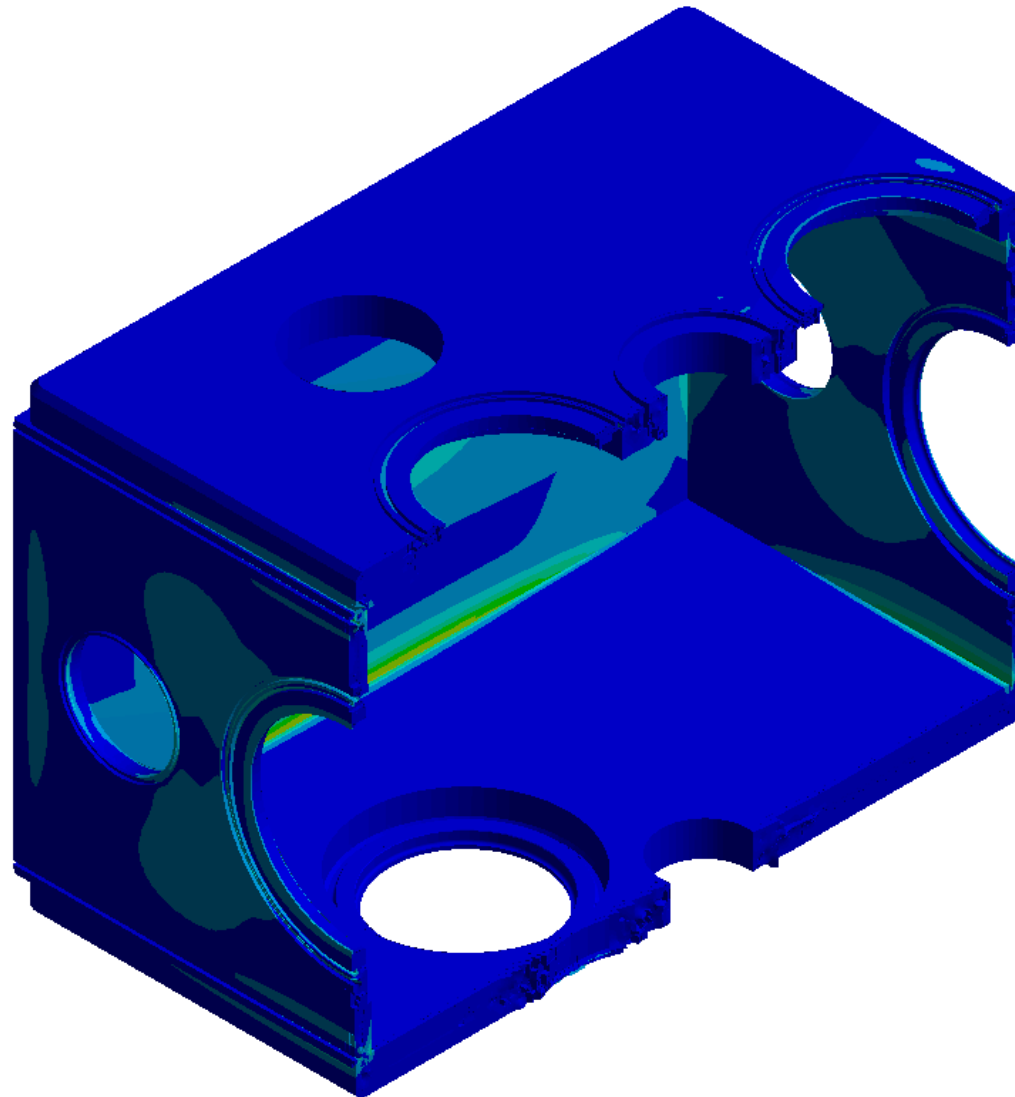
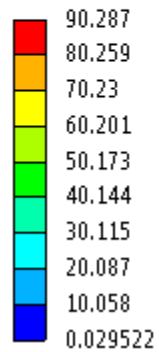
Unit: MPa

Time: 1

Custom

Max: 90.287

Min: 0.029522

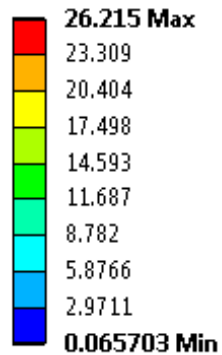


Stress intensity - rods

Type: Stress Intensity

Unit: MPa

Time: 1

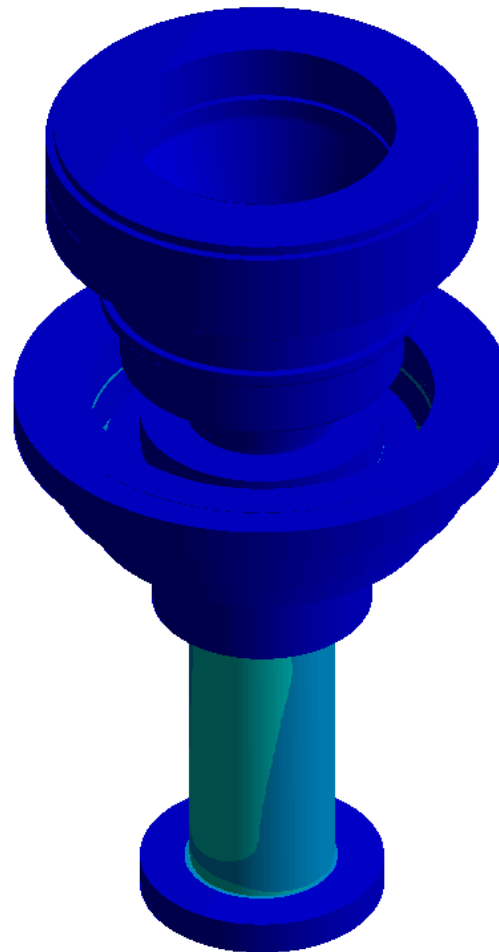
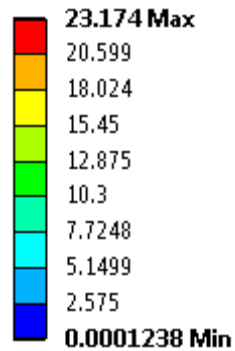




Type: Stress Intensity

Unit: MPa

Time: 1



Type: Total Deformation
Unit: mm
Time: 1

