

# **FE calculations for the RFD He vessel**

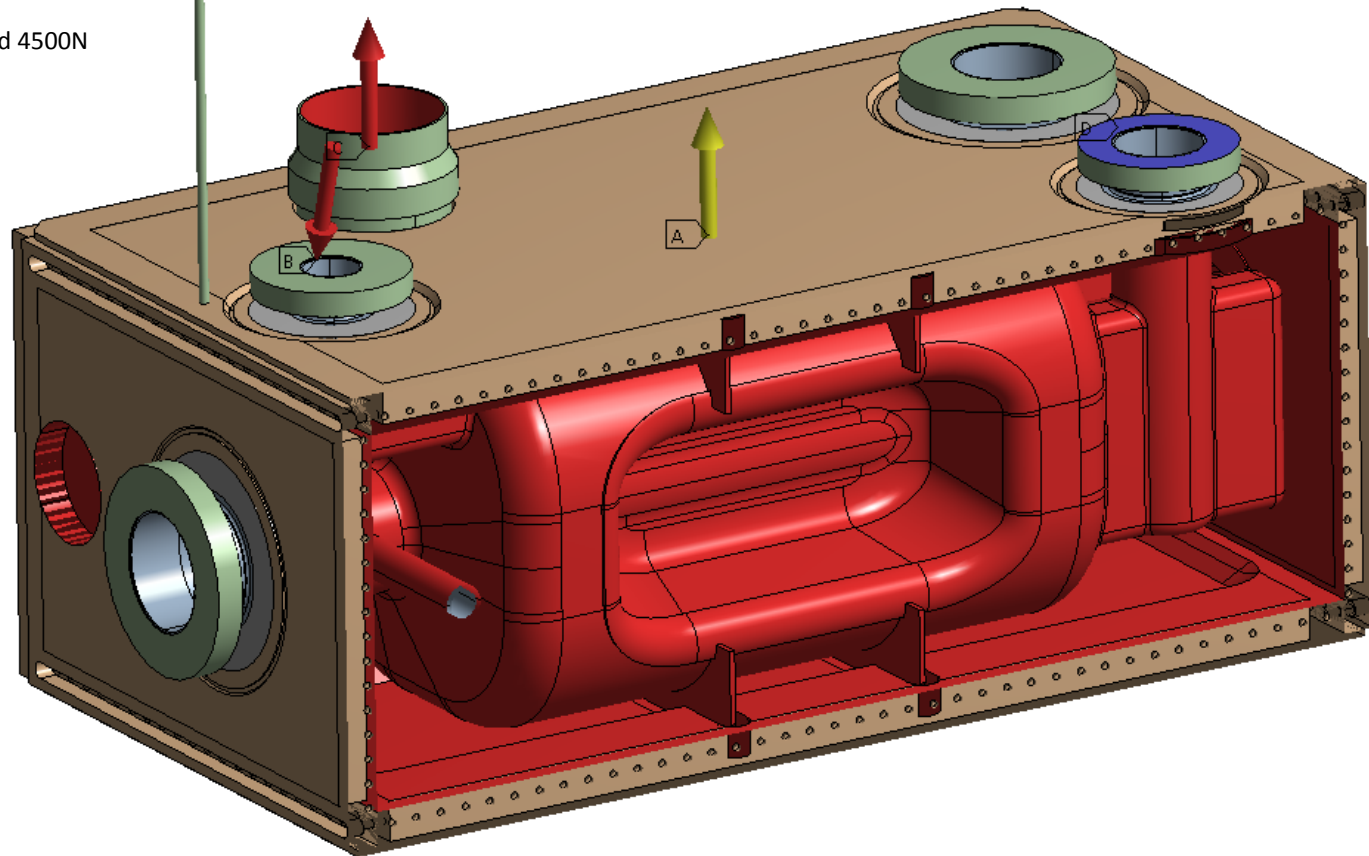
June 15th 2015

Norbert Kuder

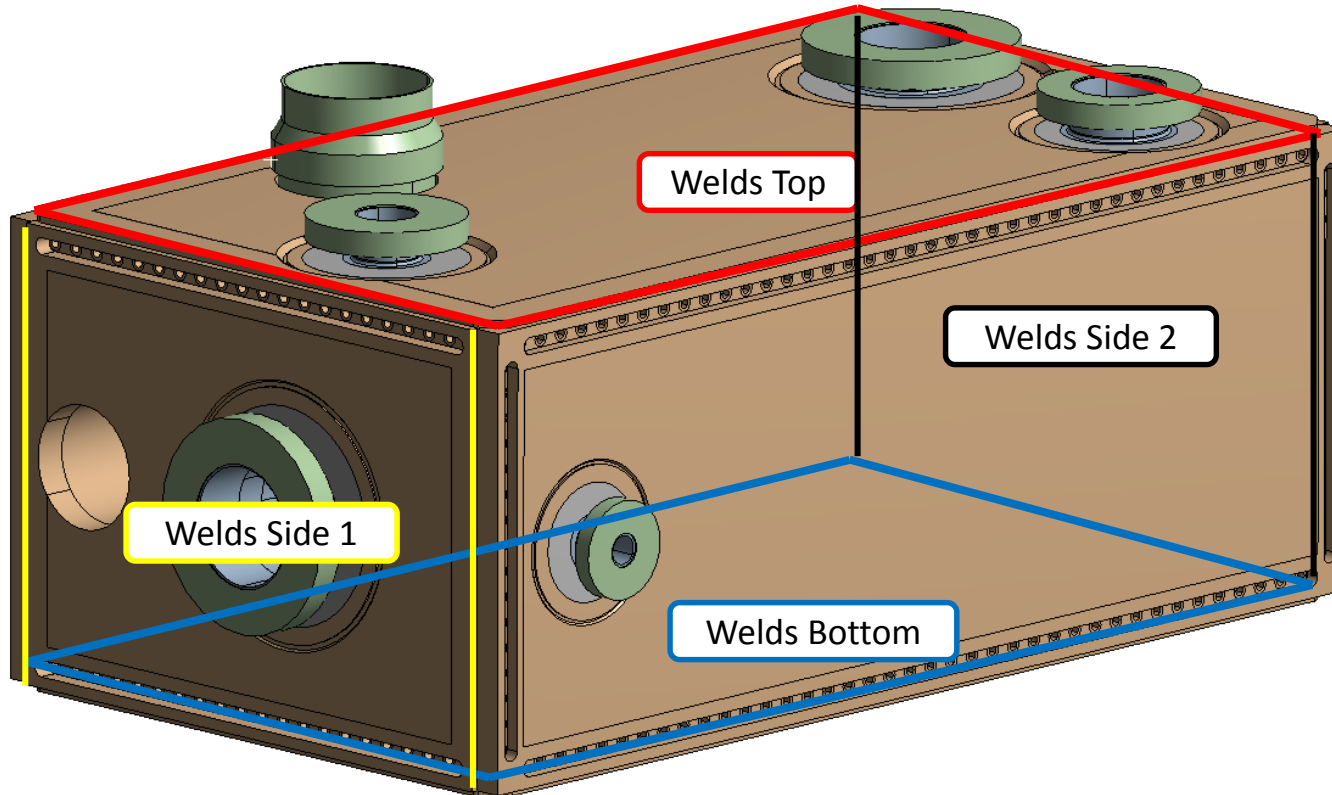
# RFD He vessel

- A** Acceleration: 9806.6 mm/s<sup>2</sup>
- B** Pressure: 0.18 MPa
- C** Force: 1413. N
- D** Fixed Support
- E** Fixed Support 2

 Preload 4500N

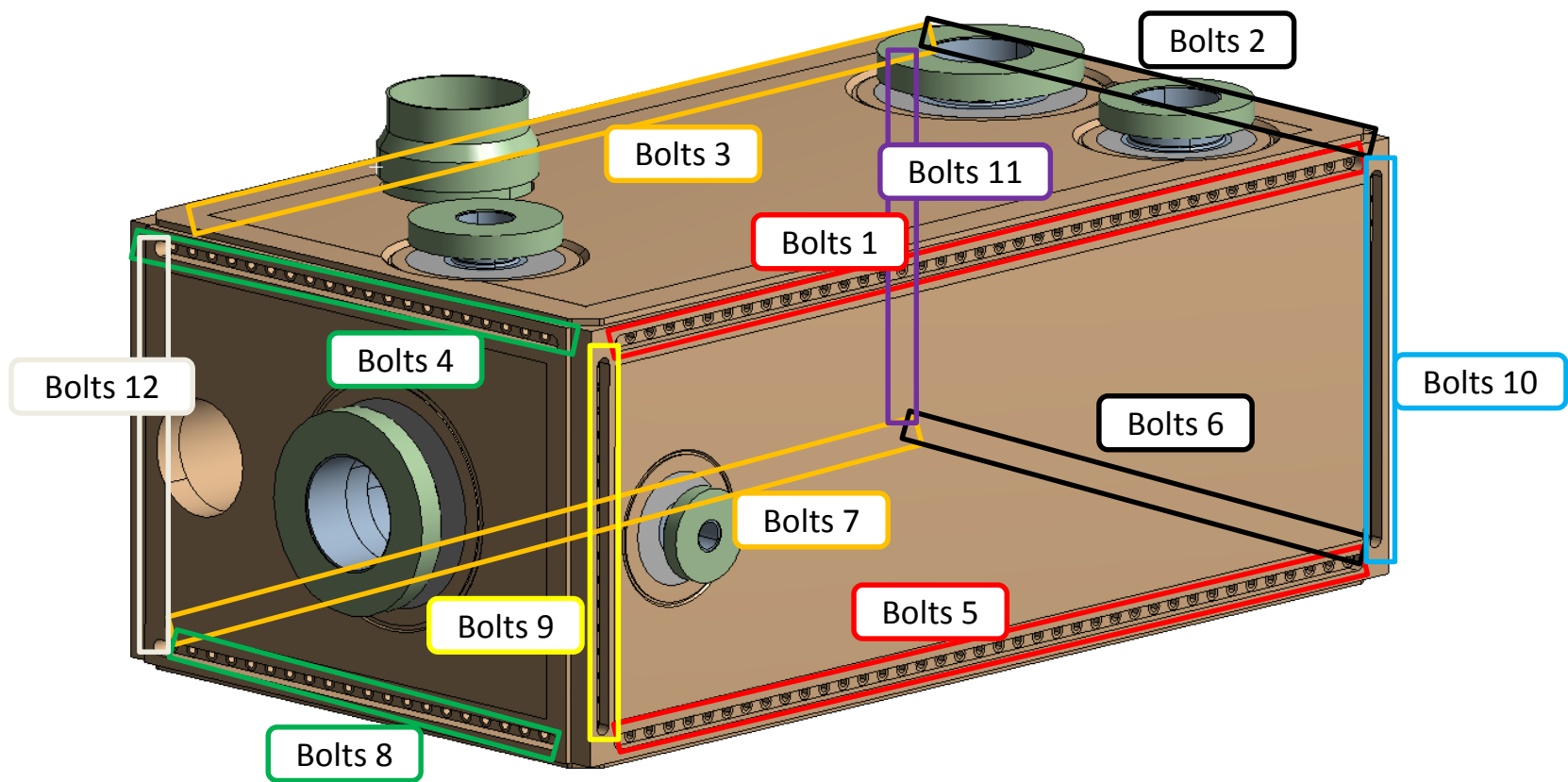


# Welds + bolts

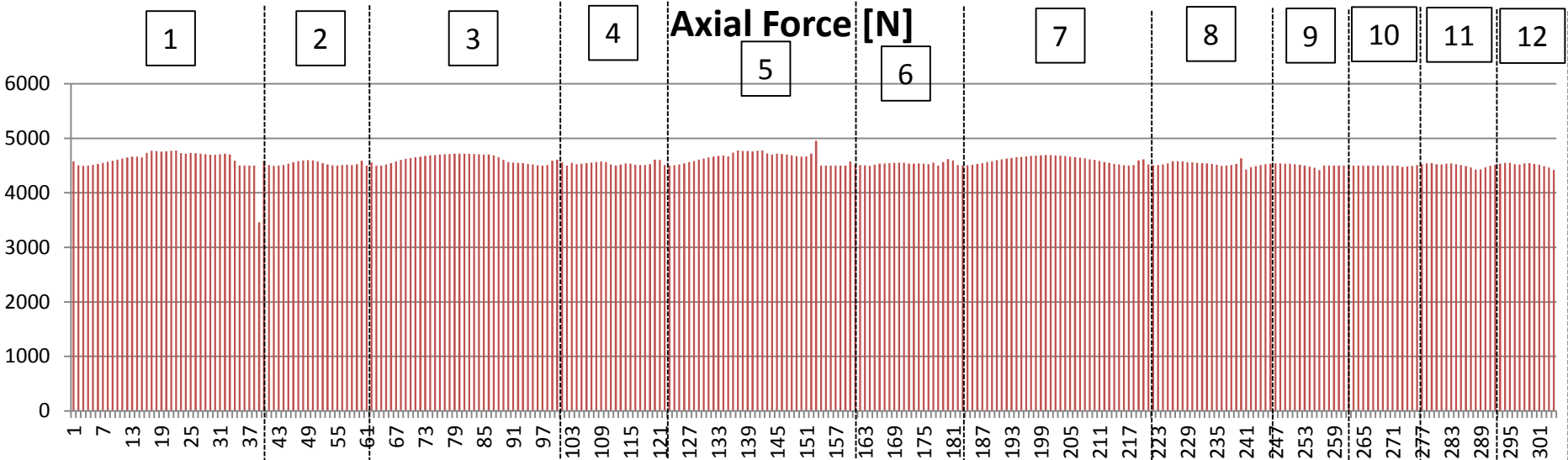


	$F_x$ [N]	$F_y$ [N]	$F_z$ [N]	$M_x$ [Nmm]	$M_y$ [Nmm]	$M_z$ [Nmm]	$\sigma_{eq}$ [MPa]
<b>Weld Top Plate</b>	-2437	620.88	-30801	-44256	55077	215000	11.96
<b>Weld Bottom Plate</b>	-494.81	-1687.4	-32563	77311	-128000	705000	13.01
<b>Weld Side1</b>	-90.36	591.06	-4521.9	38643	-20660	-1452.6	7.85
<b>Weld Side 2</b>	-632.23	-62.08	-3587.2	-25158	-156000	244000	8.19

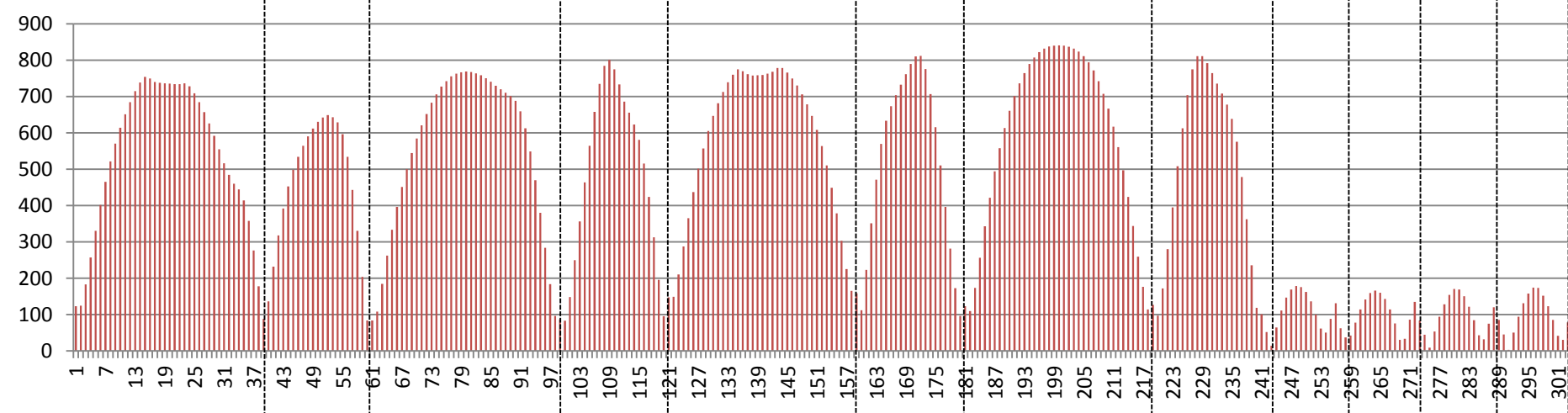
Only bolts



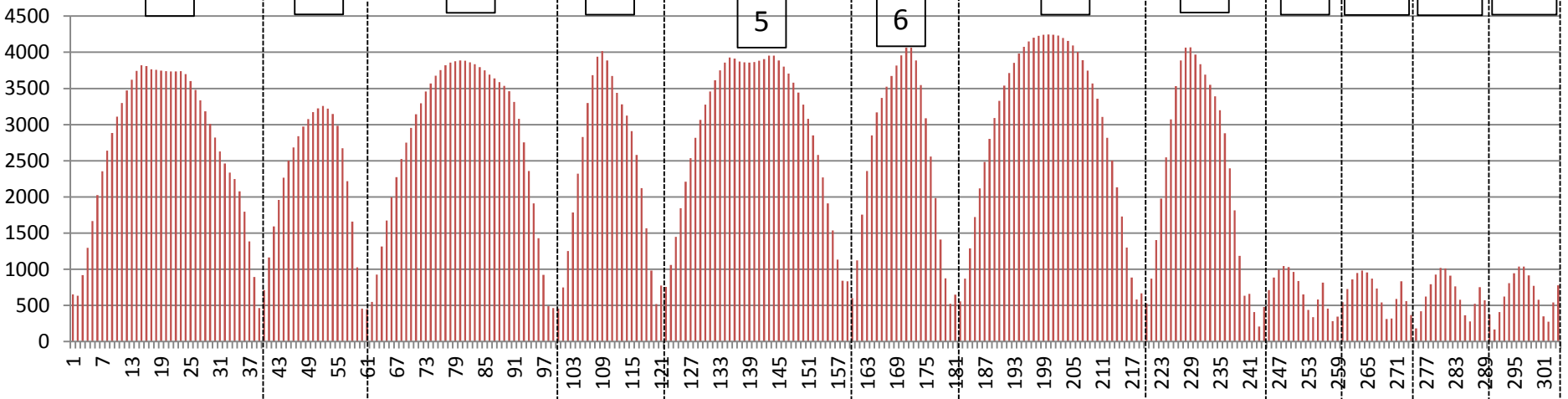
### Axial Force [N]



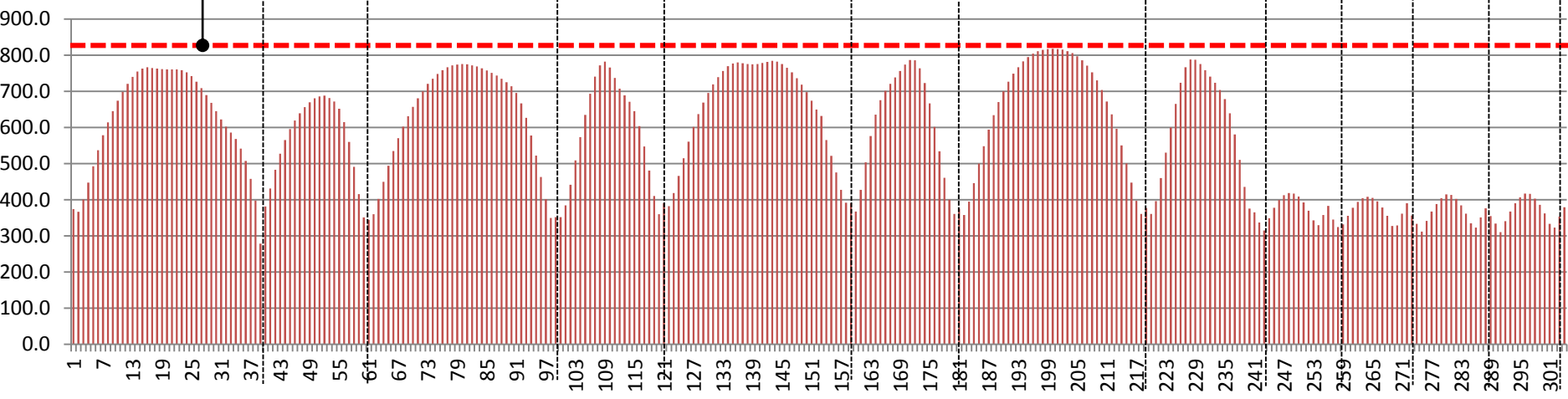
### Shear [N]



# Bending [Nmm]

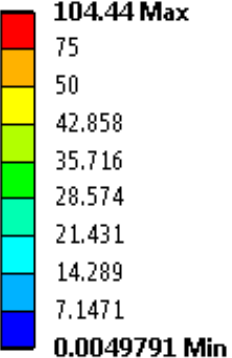


# Stress [MPa]



# Cavity

Type: Stress Intensity  
Unit: MPa



> 75 MPa  
> 50 MPa

