

Study Report



Analyzed File	WRIST CLAMP v16
Version	Autodesk Fusion (2.0.19994)
Creation Date	2024-09-14, 20:42:08
Author	Admin

☐ **Report Properties**

Title	Studies
Author	Admin

☐ **Simulation Model 1**

☐ **Study 1 - Static Stress**

☐ **Study Properties**

Study Type	Static Stress
Last Modification Date	2024-09-14, 20:32:55

☐ **Settings**

☐ **General**

Contact Tolerance	0.10 mm
Remove Rigid Body Modes	No

☐ **Damping**

☐ **Mesh**

Average Element Size (% of model size)	
Solids	10
Scale Mesh Size Per Part	No
Average Element Size (absolute value)	-
Element Order	Parabolic
Create Curved Mesh Elements	Yes
Max. Turn Angle on Curves (Deg.)	60
Max. Adjacent Mesh Size Ratio	1.5
Max. Aspect Ratio	10
Minimum Element Size (% of average size)	20

☐ **Adaptive Mesh Refinement**

Number of Refinement Steps	0
Results Convergence Tolerance (%)	20
Portion of Elements to Refine (%)	10
Results for Baseline Accuracy	von Mises Stress

☐ **Materials**

Component	Material	Safety Factor
Body1	Plastic	Yield Strength

☐ **Plastic**

Density	1.290E-06 kg / mm^3
Young's Modulus	709.00 MPa
Poisson's Ratio	0.40
Yield Strength	30.00 MPa
Ultimate Tensile Strength	40.00 MPa
Thermal Conductivity	2.500E-04 W / (mm C)
Thermal Expansion Coefficient	4.190E-05 / C
Specific Heat	1750.00 J / (kg C)

☐ **Contacts**

☐ **Mesh**

Type	Nodes	Elements
Solids	65644	40428

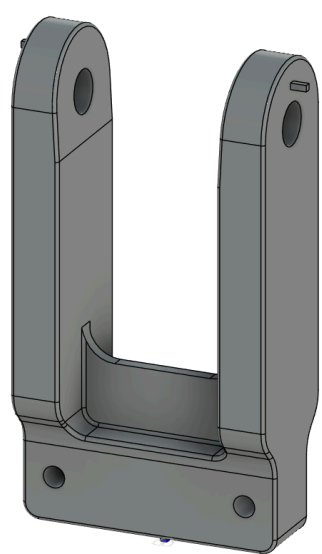
☐ **Load Case1**

☐ **Constraints**

☐ **Fixed1**

Type	Fixed
Ux	Fixed
Uy	Fixed
Uz	Fixed

☐ **Selected Entities**

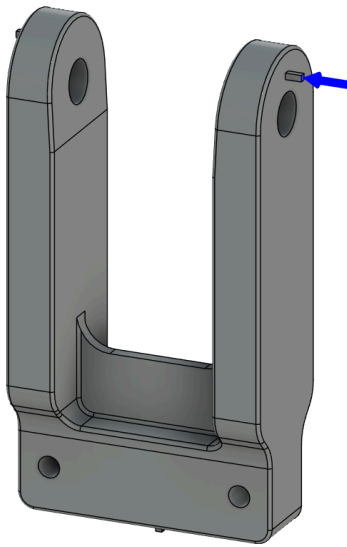


☐ **Loads**

☐ **Force1**

Type	Force
Magnitude	100.00 N
X Value	-100.00 N
Y Value	0.00 N
Z Value	0.00 N
Force Per Entity	No

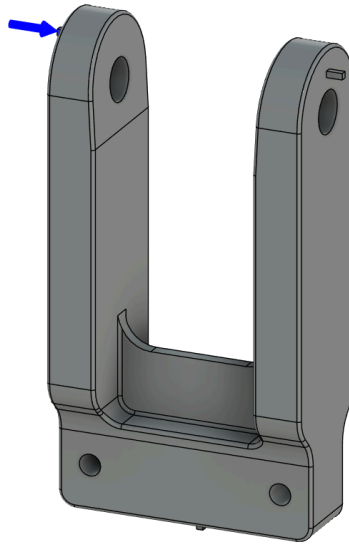
☐ **Selected Entities**



☐ **Force2**

Type	Force
Magnitude	100.00 N
X Value	100.00 N
Y Value	0.00 N
Z Value	0.00 N
Force Per Entity	No

☐ **Selected Entities**



Results

Result Summary

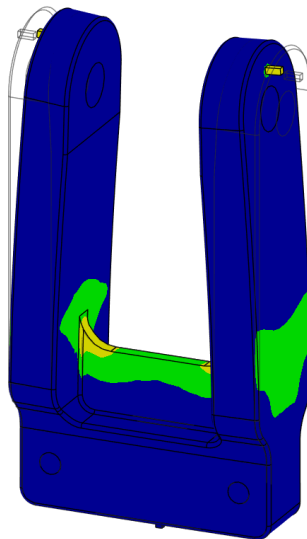
Name	Minimum	Maximum
Safety Factor		
Safety Factor (Per Body)	1.064	15.00
Stress		
von Mises	0.03 MPa	28.187 MPa
1st Principal	-6.331 MPa	6.266 MPa
3rd Principal	-27.639 MPa	0.727 MPa
Normal XX	-27.634 MPa	2.97 MPa
Normal YY	-14.115 MPa	6.266 MPa
Normal ZZ	-7.847 MPa	4.364 MPa
Shear XY	-9.085 MPa	9.091 MPa
Shear YZ	-4.464 MPa	4.352 MPa
Shear ZX	-5.78 MPa	5.675 MPa
Displacement		
Total	0.00 mm	6.663 mm
X	-6.61 mm	6.633 mm
Y	-0.447 mm	1.135 mm
Z	-0.048 mm	0.06 mm
Reaction Force		
Total	0.00 N	0.189 N
X	-0.127 N	0.122 N
Y	-0.055 N	0.041 N
Z	-0.115 N	0.138 N
Strain		
Equivalent	4.998E-05	0.043
1st Principal	3.262E-05	0.028

3rd Principal	-0.045	-3.799E-05
Normal XX	-0.038	0.007
Normal YY	-0.017	0.017
Normal ZZ	-0.004	0.018
Shear XY	-0.036	0.036
Shear YZ	-0.018	0.017
Shear ZX	-0.023	0.022
Contact Force		
Total	0.00 N	0.00 N
X	0.00 N	0.00 N
Y	0.00 N	0.00 N
Z	0.00 N	0.00 N

☐ Safety Factor


☐ Safety Factor (Per Body)

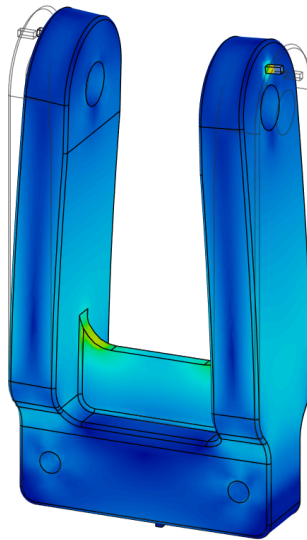
0.00  8.00




☐ Stress

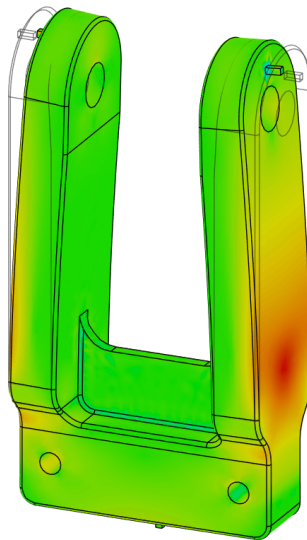
☐ von Mises

[MPa] 0.03  28.187, Threshold: 0.03 - 22.79



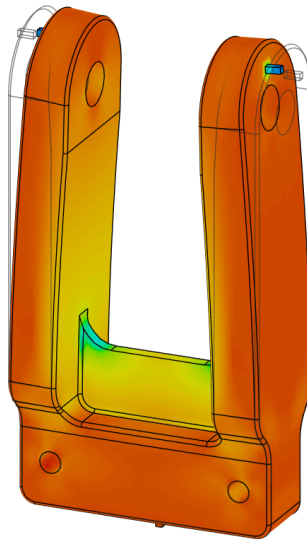
☐ **1st Principal**

[MPa] -6.331  6.266



☐ **3rd Principal**

[MPa] -27.639  0.727



☐ **Displacement**

☐ **Total**

[mm] 0.00  6.663

