Study Report

AUTODESK

Analyzed File	Simple_star_fish v6
Version	Autodesk Fusion (2604.1.48)
Creation Date	2025-11-13, 13:57:43
Author	vishal

⊟ Report Properties

Title	Studies
Author	vishal

⊟ Simulation Model 1

⊟ Study 2 - Static Stress

⊟ Study Properties

Study Type	Static Stress
Last Modification Date	2025-11-11, 10:39:51

⊟ Settings

⊟ General

Contact Tolerance	0.10 mm
Remove Rigid Body Modes	No

⊟ 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	No
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	Steel	Yield Strength
Body5	Steel	Yield Strength

⊟ Steel

Density	7.850E-06 kg / mm^3
Young's Modulus	210000.00 MPa
Poisson's Ratio	0.30
Yield Strength	207.00 MPa
Ultimate Tensile Strength	345.00 MPa
Thermal Conductivity	0.056 W / (mm C)
Thermal Expansion Coefficient	1.200E-05 / C
Specific Heat	480.00 J / (kg C)

⊟ Contacts

Bonded

Name
[S] Bonded1 [Body1||Body5]

Mesh

Type	Nodes	Elements
Solids	22000	12844

Load Case1

Constraints

Fixed2

Type	Fixed
Ux	Fixed
Uy	Fixed
Uz	Fixed

Selected Entities
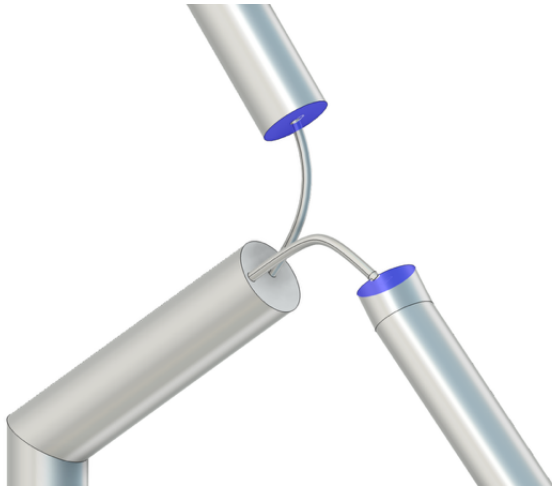
Loads

Force3

Type	Force
Magnitude	100.00 N
X Value	0.00 N
Y Value	-83.867 N
Z Value	-54.464 N
Force Per Entity	No

Selected Entities
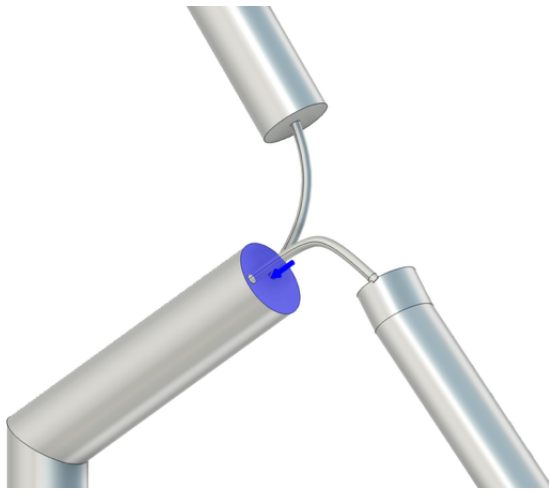
Results

Result Summary

Name	Minimum	Maximum
Safety Factor		
Safety Factor (Per Body)	0.003	15.00
Stress		
von Mises	6.510E-08 MPa	74779.36 MPa
1st Principal	-15675.058 MPa	65258.931 MPa
3rd Principal	-93092.89 MPa	7511.405 MPa
Normal XX	-23345.779 MPa	14169.227 MPa
Normal YY	-46949.344 MPa	60383.398 MPa
Normal ZZ	-62486.246 MPa	52282.739 MPa
Shear XY	-14190.638 MPa	15894.707 MPa
Shear YZ	-22313.44 MPa	35039.555 MPa
Shear ZX	-17219.694 MPa	18610.274 MPa
Displacement		
Total	0.00 mm	53.809 mm
X	-0.029 mm	45.059 mm
Y	-28.088 mm	0.008 mm
Z	-4.76 mm	13.963 mm
Reaction Force		
Total	0.00 N	138.254 N
X	-45.60 N	48.823 N
Y	-65.212 N	97.864 N
Z	-91.493 N	113.58 N
Strain		
Equivalent	0.00	0.579
1st Principal	-1.397E-08	0.47
3rd Principal	-0.638	7.895E-09
Normal XX	-0.083	0.087
Normal YY	-0.224	0.281
Normal ZZ	-0.246	0.212
Shear XY	-0.176	0.197
Shear YZ	-0.276	0.434
Shear ZX	-0.213	0.23
Contact Pressure		

Total	0.00 MPa	25717.195 MPa
X	-6316.27 MPa	10982.759 MPa
Y	-22478.064 MPa	22655.746 MPa
Z	-14700.29 MPa	14910.197 MPa
Contact Force		
Total	0.00 N	66.769 N
X	-26.591 N	17.685 N
Y	-40.301 N	53.498 N
Z	-29.808 N	51.513 N

⊟ Safety Factor

⊟ Safety Factor (Per Body)

0.00 ▮▮▮▮ 8.00
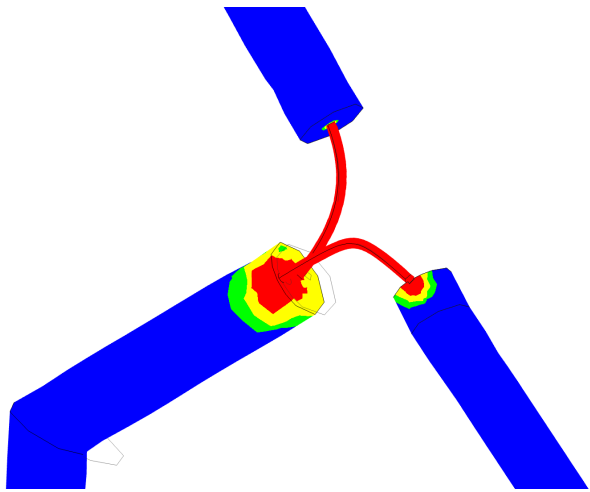
⊟ Stress

⊟ von Mises

[MPa] 0.00 ▮▮▮▮ 74779.359
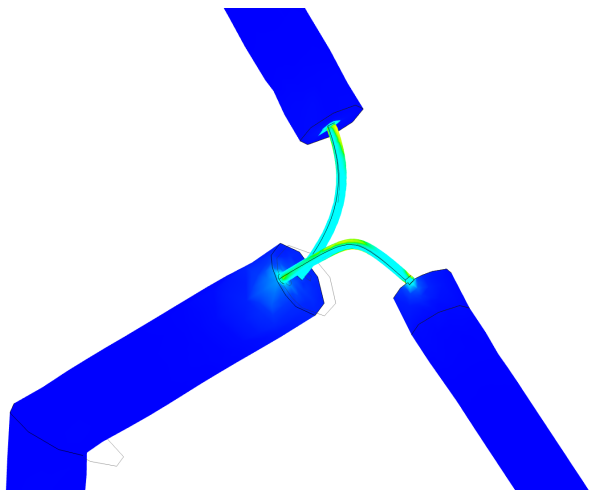
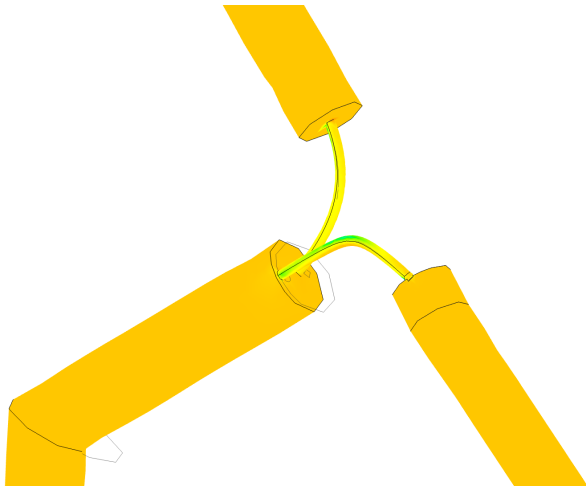## ⊟ 1st Principal

[MPa] -15675.058 ▮▮▮▮ 65258.934
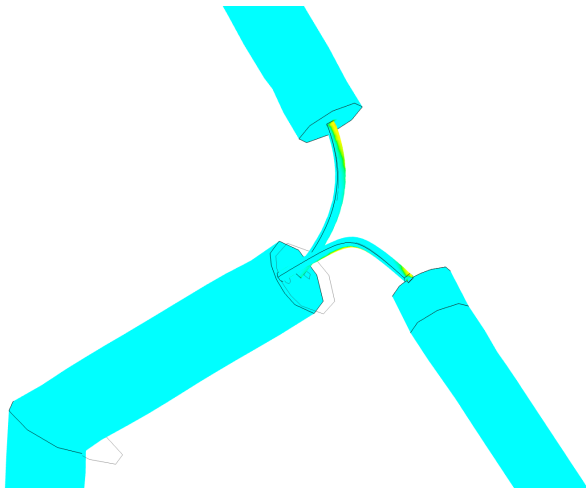
3rd Principal

[MPa] -93092.891 ▮▮▮ 7511.405

Displacement

Total

[mm] 0.00 ▮▮▮ 53.809