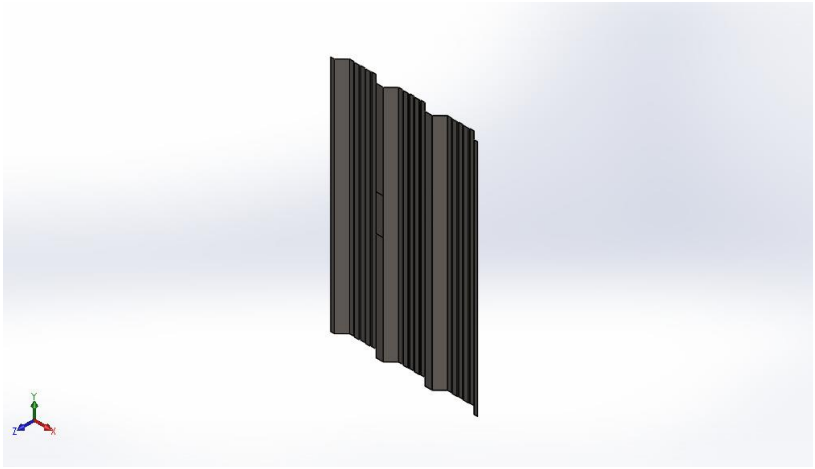
NED University



Simulation of Sheet v1[1].step

Date: Friday, December 29, 2023
Designer: Sr Muzammil & Syed Shayan Ahmed
Study name: Static 1
Analysis type: Static

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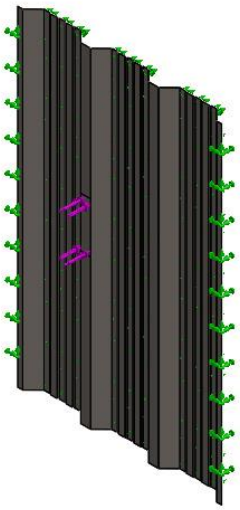
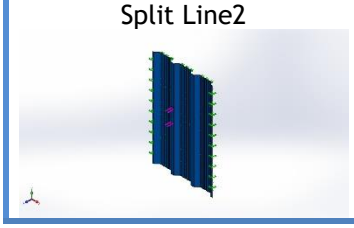
Model Information



Model name: Sheet v1[1].step
Current Configuration: Default

Solid Bodies

Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Split Line2 	Solid Body	**Mass:2.75533 kg** **Volume:0.00035064 m^3** **Density:7,858 kg/m^3** **Weight:27.0022 N**	**C:\Users\FC\Sheet v1[1].step.SLDPRT** Dec 29 10:00:36 2023

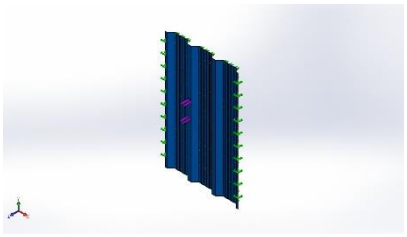
Study Properties

Study name	Static 1
Analysis type	Static
Mesh type	Solid Mesh
Thermal Effect:	On
Thermal option	Include temperature loads
Zero strain temperature	298 Kelvin
Include fluid pressure effects from SOLIDWORKS Flow Simulation	Off
Solver type	Automatic
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On
Friction	Off
Use Adaptive Method:	Off
Result folder	SOLIDWORKS document (C:\Users\FC)

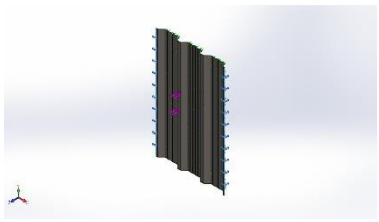
Units

Unit system:	SI (MKS)
Length/Displacement	mm
Temperature	Kelvin
Angular velocity	Rad/sec
Pressure/Stress	N/m^2

Material Properties

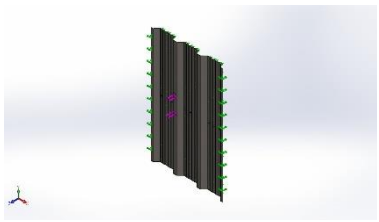
Model Reference	Properties	Components
	**Name:** 1023 Carbon Steel Sheet (SS) **Model type:** Linear Elastic Isotropic **Default failure criterion:** Unknown **Yield strength:** 2.82685e+08 N/m^2 **Tensile strength:** 4.25e+08 N/m^2 **Elastic modulus:** 2.05e+11 N/m^2 **Poisson's ratio:** 0.29 **Mass density:** 7,858 kg/m^3 **Shear modulus:** 8e+10 N/m^2 **Thermal expansion coefficient:** 1.2e-05 /Kelvin	SolidBody 1(Split Line2)(Sheet v1[1].step)
Curve Data:N/A		

Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-1		**Entities:** 2 edge(s) **Type:** Fixed Geometry

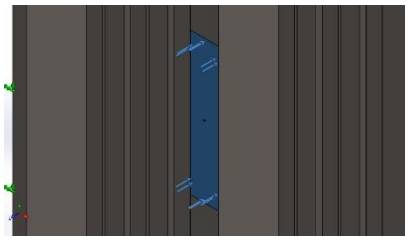
Resultant Forces

Components	X	Y	Z	Resultant
Reaction force(N)	-1.7643e-05	-7.10487e-05	-476.205	476.205
Reaction Moment(N.m)	0	0	0	0

Fixture name	Fixture Image	Fixture Details
Roller/Slider-1		**Entities:** 9 face(s) **Type:** Roller/Slider

Resultant Forces

Components	X	Y	Z	Resultant
Reaction force(N)	8.29507e-11	0	1,976.21	1,976.21
Reaction Moment(N.m)	0	0	0	0

Load name	Load Image	Load Details
Force-1		**Entities:** 1 face(s) **Type:** Apply normal force **Value:** 1,500 N

Resultant Forces

Reaction forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	-1.7643e-05	-7.10487e-05	1,500	1,500

Reaction Moments

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0	0	0	0

Free body forces

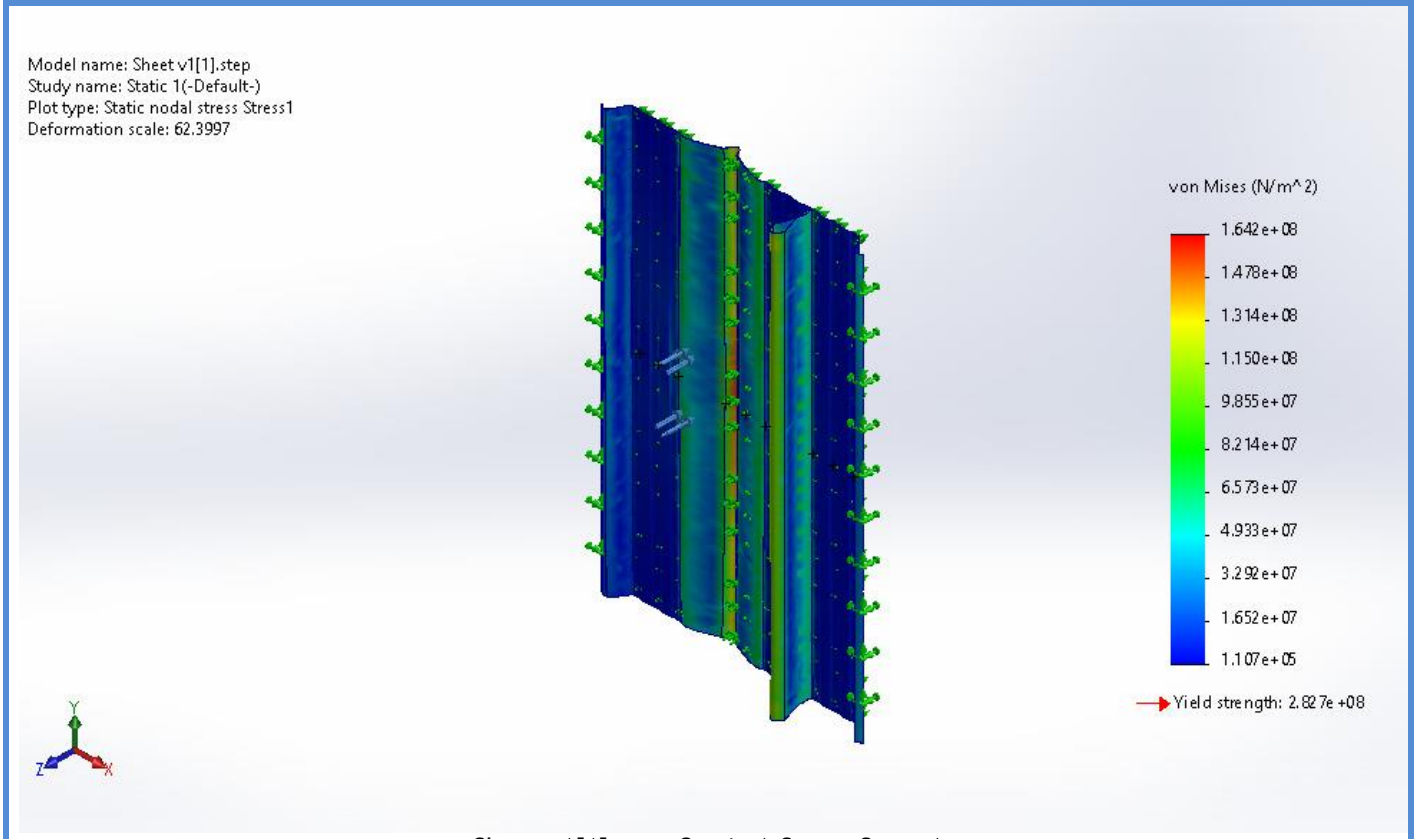
Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N	0.00106382	-0.000169277	0.000572205	0.00121975

Free body moments

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	N.m	0	0	0	1e-33

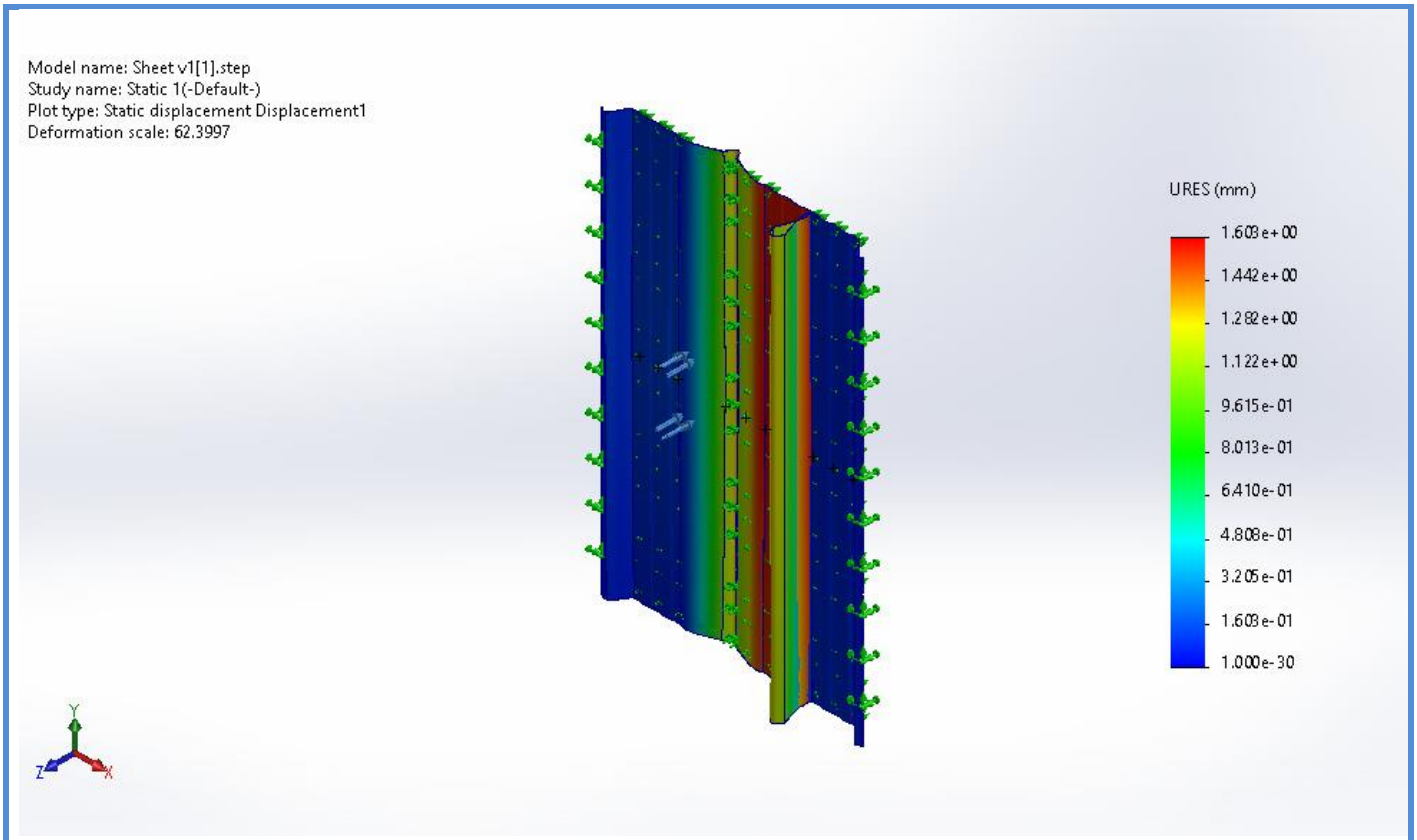
Study Results

Name	Type	Min	Max
Stress1	VON: von Mises Stress	1.107e+05N/m^2 Node: 15534	1.642e+08N/m^2 Node: 1369



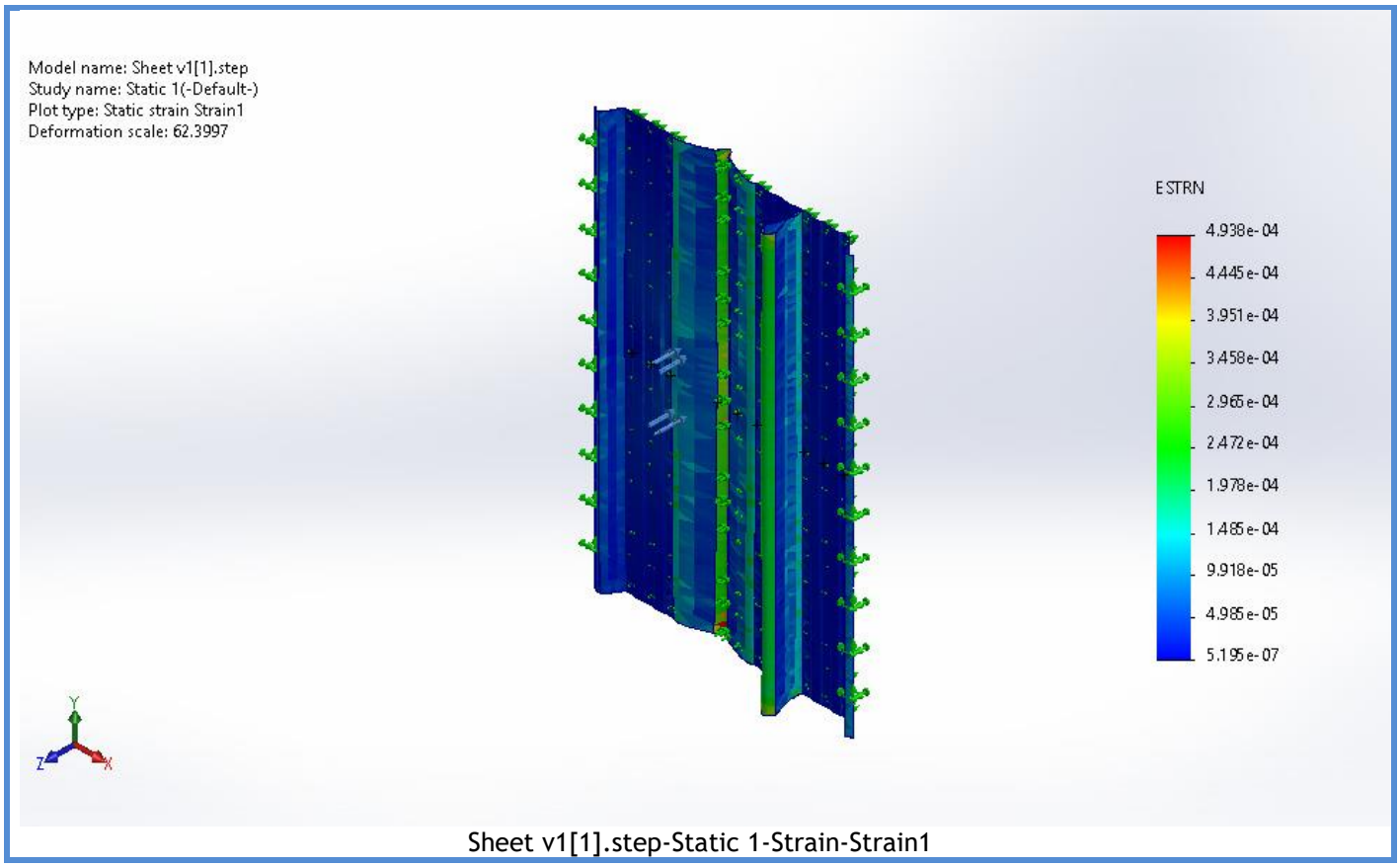
Sheet v1[1].step-Static 1-Stress-Stress1

Name	Type	Min	Max
Displacement1	URES: Resultant Displacement	0.000e+00mm Node: 51	1.603e+00mm Node: 8136



Sheet v1[1].step-Static 1-Displacement-Displacement1

Name	Type	Min	Max
Strain1	ESTRN: Equivalent Strain	5.195e-07 Element: 2852	4.938e-04 Element: 22772



Sheet v1[1].step-Static 1-Strain-Strain1