

## Simulation of EX01\_Yanchapanta\_01 (1)

**Date:** Friday, June 08, 2018  
**Designer:** Nancy Yanchapanta  
**Study name:** SimulationXpress Study  
**Analysis type:** Static

### Table of Contents

Description.....	1
Assumptions .....	2
Model Information .....	2
Material Properties .....	3
Loads and Fixtures.....	4
Mesh information .....	5
Study Results .....	7
Conclusion .....	10

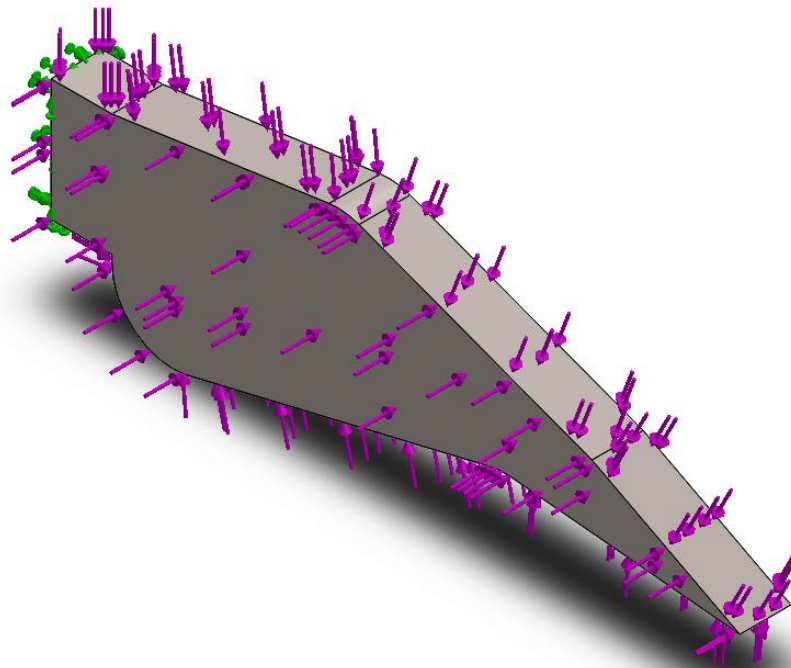
### Description

Exercise 06 AD Solid Modeling 2



## Assumptions

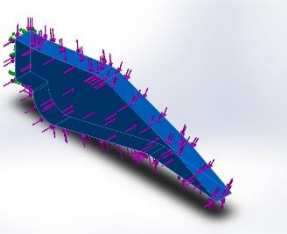
## Model Information



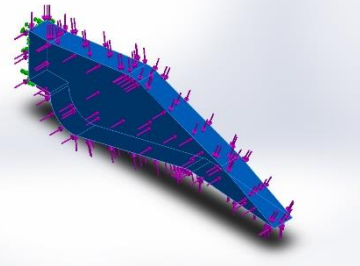
Model name: EX01\_Yanchapanta\_01 (1)  
Current Configuration: Default

### Solid Bodies

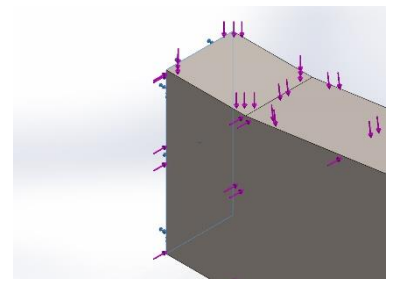
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
-----------------------------	------------	-----------------------	-----------------------------

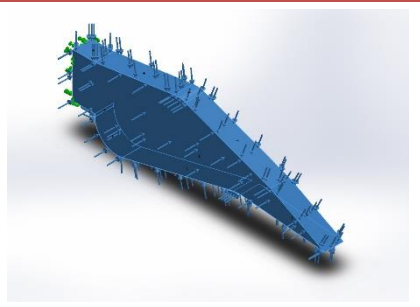
<p>Boss-Extrude1</p> 	<p>Solid Body</p>	<p>Mass:0.300992 kg Volume:3.90899e-005 m<sup>3</sup> Density:7700 kg/m<sup>3</sup> Weight:2.94972 N</p>	<p>C:\Users\Labs\Downloads\ EX01_Yanchapanta_01 (1).SLDPRT Jun 08 18:16:57 2018</p>
--	-------------------	--	---

### Material Properties

Model Reference	Properties	Components
	<p><b>Name:</b> Alloy Steel <b>Model type:</b> Linear Elastic Isotropic <b>Default failure criterion:</b> Max von Mises Stress <b>Yield strength:</b> 6.20422e+008 N/m<sup>2</sup> <b>Tensile strength:</b> 7.23826e+008 N/m<sup>2</sup></p>	<p>SolidBody 1(Boss-Extrude1)(EX01_Yanchapanta_01 (1))</p>

### Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-1		<b>Entities:</b> 1 face(s) <b>Type:</b> Fixed Geometry

Load name	Load Image	Load Details
Force-1		<b>Entities:</b> 10 face(s) <b>Type:</b> Apply normal force <b>Value:</b> 10 lbf

**Mesh information**

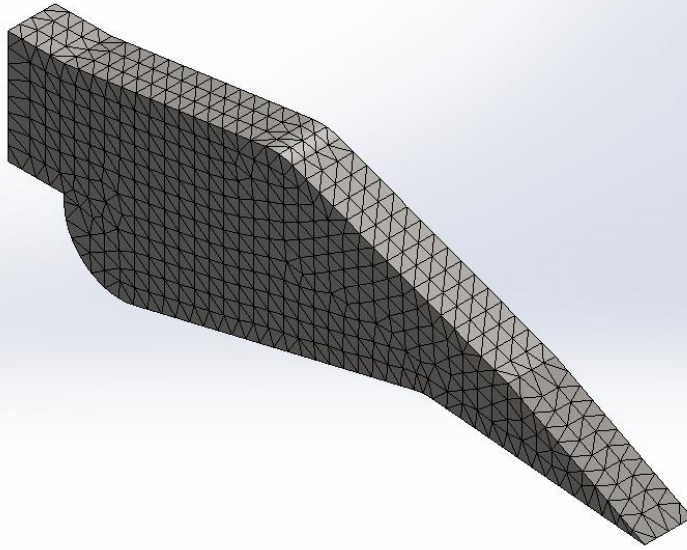
Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.13366 in
Tolerance	0.006683 in
Mesh Quality Plot	High

**Mesh information - Details**

Total Nodes	11571
Total Elements	7173
Maximum Aspect Ratio	3.6227
% of elements with Aspect Ratio < 3	99.9
% of elements with Aspect Ratio > 10	0
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:01
Computer name:	V511A-01



Model name: EX01\_Yanchapanta\_01 (1)  
Study name: SimulationXpress Study(Default)  
Mesh type: Solid Mesh

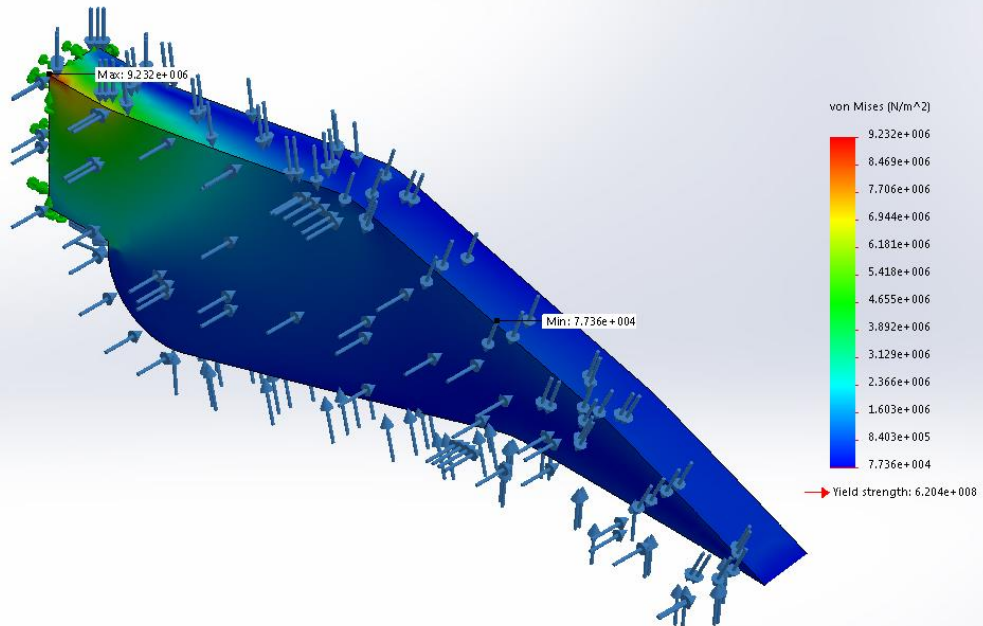


SOLIDWORKS Educational Product. For Instructional Use Only.

### Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	7.736e+004N/m <sup>2</sup> Node: 1365	9.232e+006N/m <sup>2</sup> Node: 384

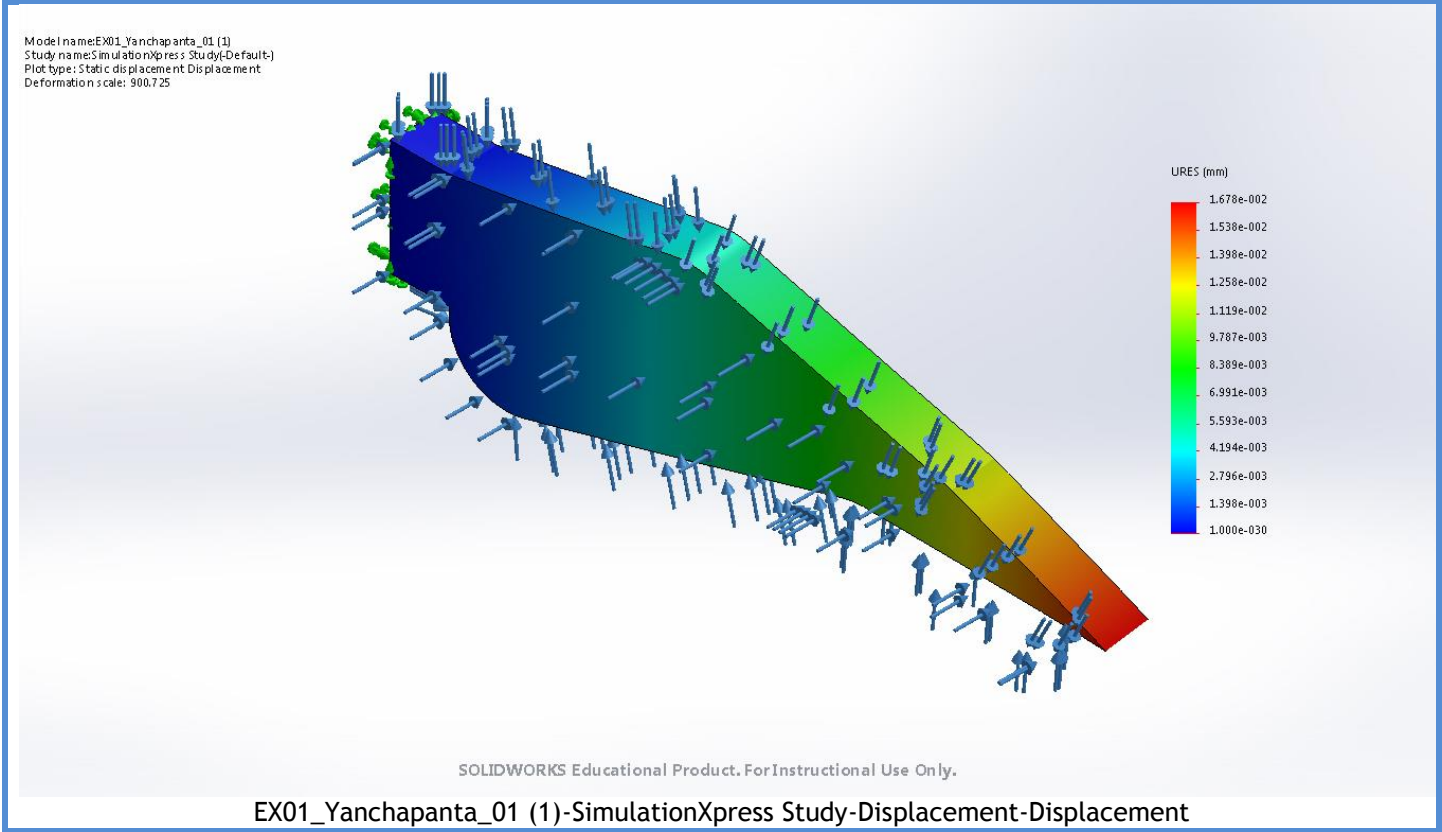
Model name: EX01\_Yanchapanta\_01 (1)  
Study name: SimulationXpress Study-(Default-)  
Plot type: Static nodal stress Stress  
Deformation scale: 900.725



SOLIDWORKS Educational Product. For Instructional Use Only.

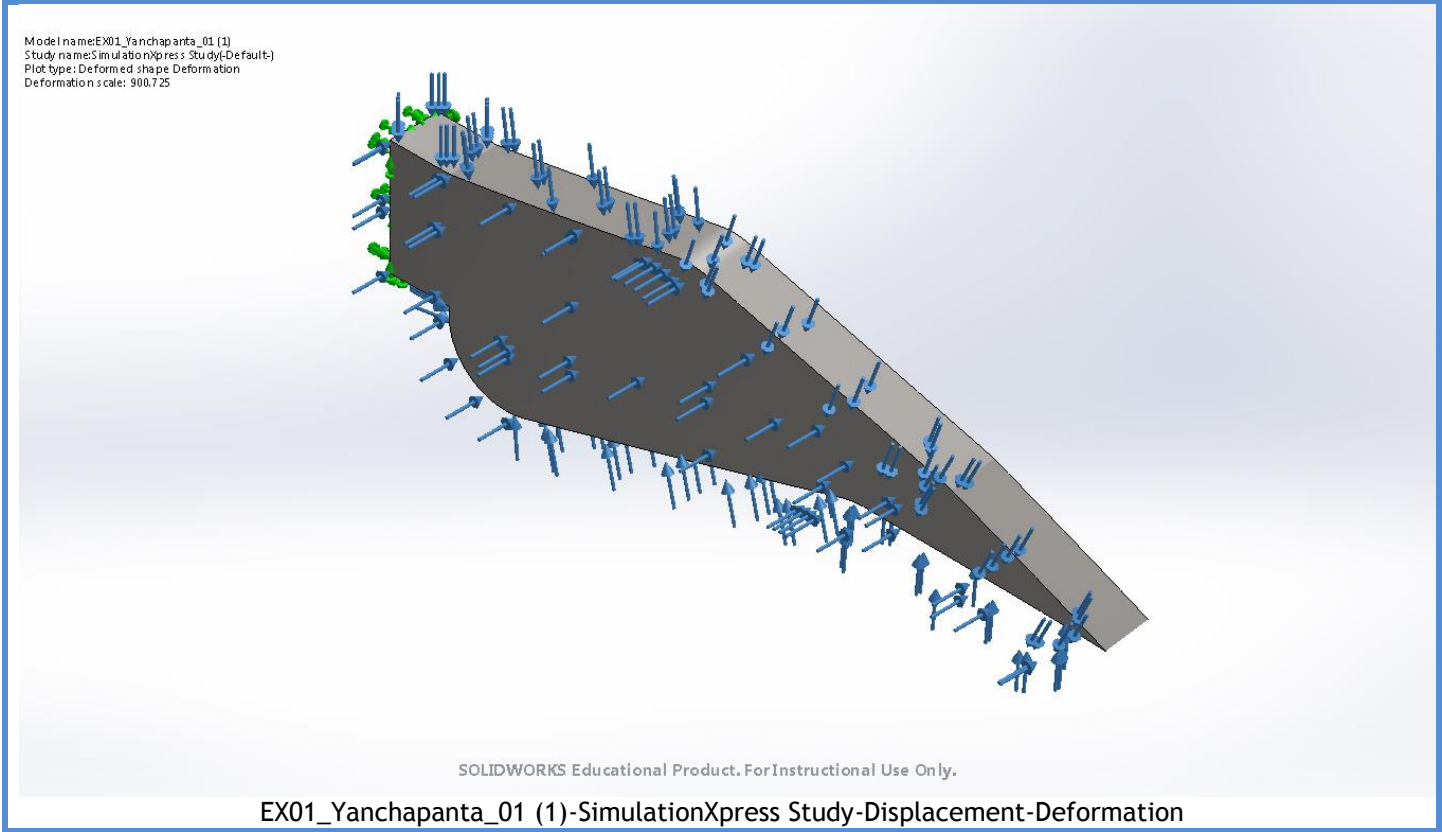
EX01\_Yanchapanta\_01 (1)-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0.000e+000mm Node: 1	1.678e-002mm Node: 157

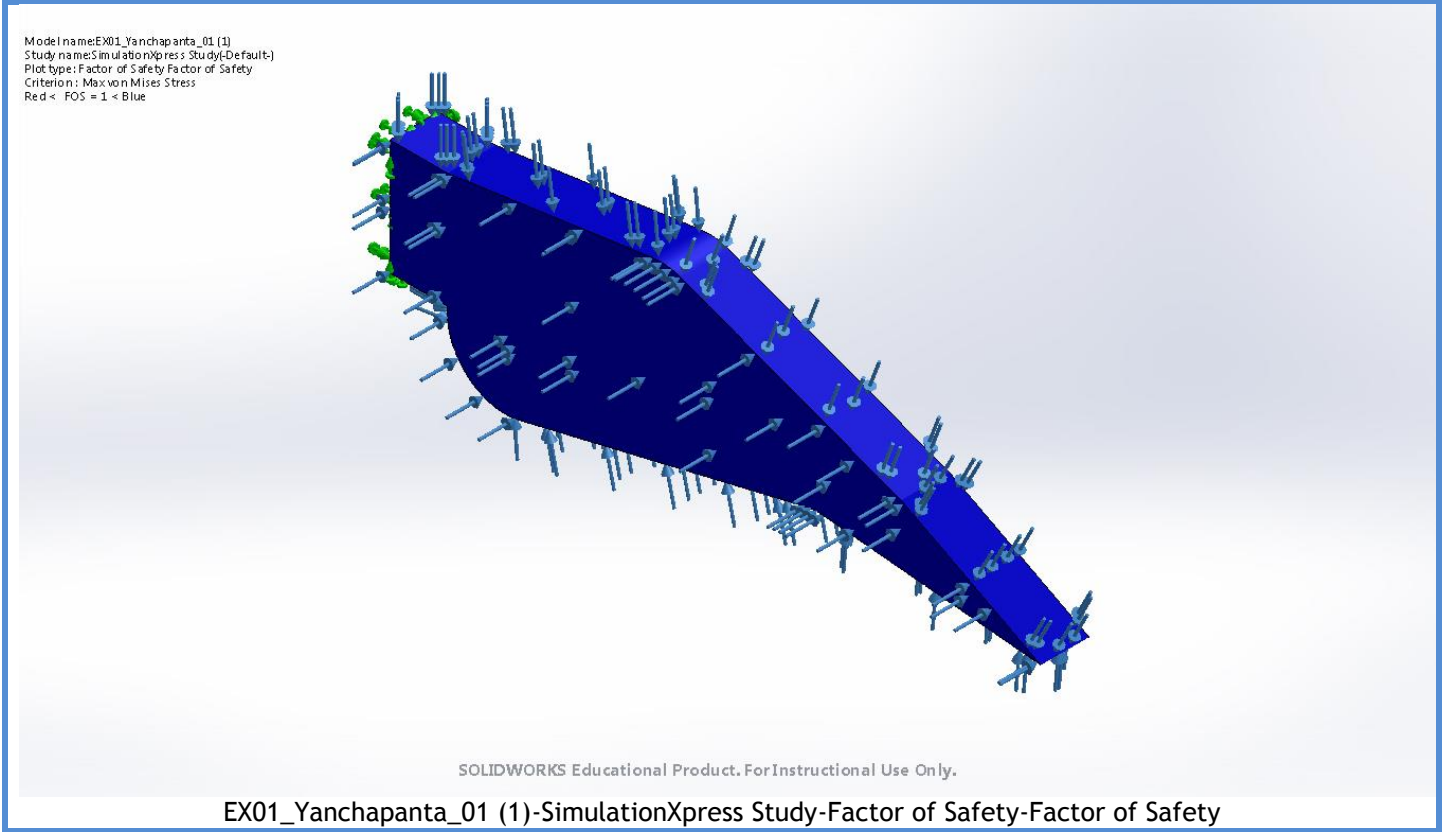


Name	Type
Deformation	Deformed shape





Name	Type	Min	Max
Factor of Safety	Max von Mises Stress	6.720e+001 Node: 384	8.020e+003 Node: 1365



## Conclusion