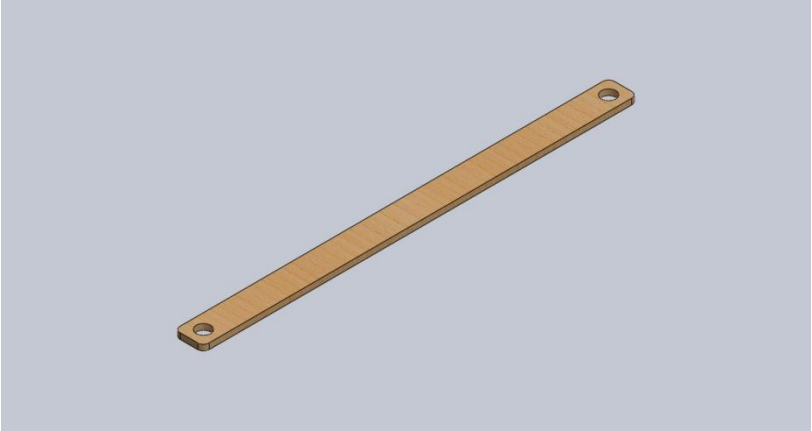


Simulation of doorlink

Date: 29 March 2015
Designer: Solidworks
Study name: SimulationXpress Study
Analysis type: Static

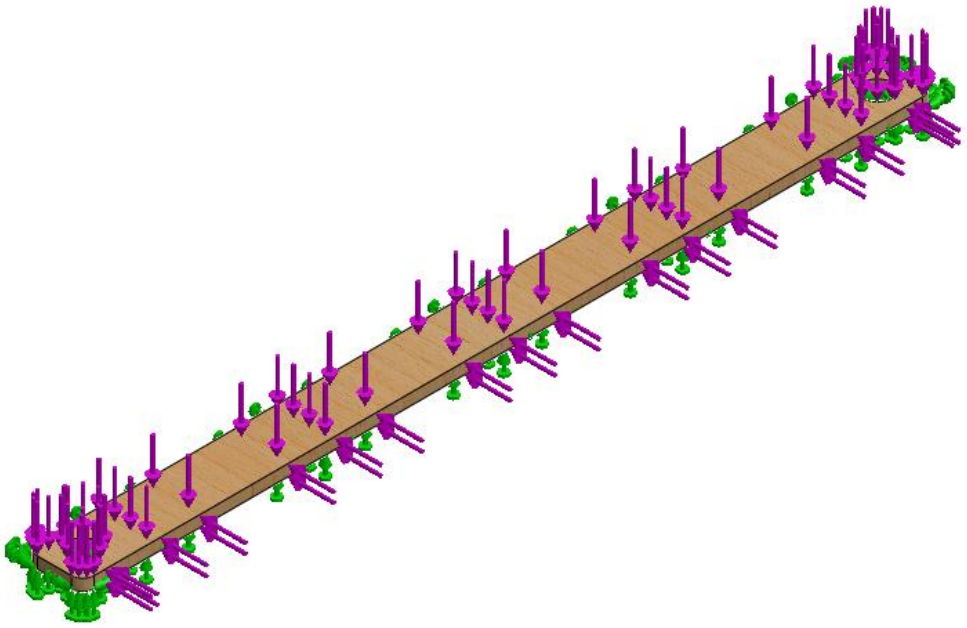
Table of Contents

Description

No Data

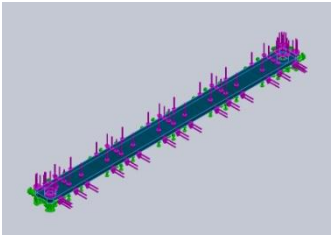
Assumptions

Model Information



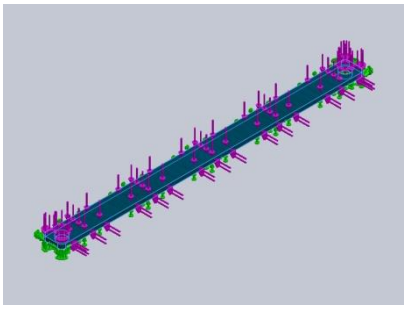
Model name: doorlink
Current Configuration: Default

Solid Bodies

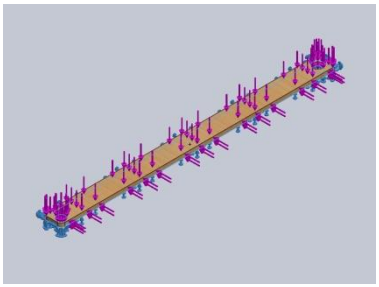
<L_MdInf_SldBd_Nm/>	Treated As	Volumetric Properties	Document Path/Date Modified
Boss-Extrude1 	Solid Body	**Mass:0.0582882 kg** **Volume:0.000364324 m^3** **Density:159.99 kg/m^3** **Weight:0.571224 N**	**C:\Users\Sensei\Documents\Projects\SolidWorks\homeautomation\doormechanism\doorlink.SLDPRT** Mar 28 07:56:17 2015
<L_MdInf_ShlBd_Nm/>	**<L_MdIn_ShlBd_Fr/>**	**<L_MdInf_ShlBd_VolProp/>**	**<L_MdIn_ShlBd_DtMd/>**

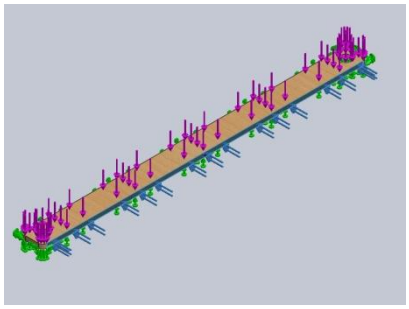
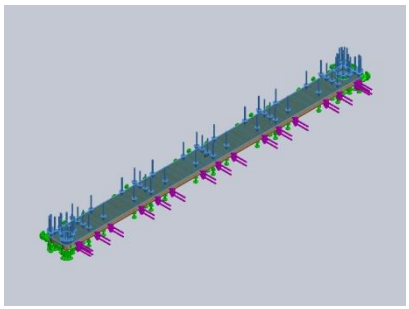
<L_MdInf_CpBd_Nm/>	<L_MdInf_CompBd_Props/>		
<L_MdInf_BmBd_Nm/>	<L_MdIn_BmBd_Fr/>	<L_MdInf_BmBd_VolProp/>	<L_MdIn_BmBd_DtMd/>

Material Properties

Model Reference	Properties	Components
	**Name:** Balsa **Model type:** Linear Elastic Isotropic **Default failure criterion:** Unknown **Yield strength:** 20 N/mm^2	SolidBody 1(Boss-Extrude1)(doorlink)

Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-3		**Entities:** 1 face(s) **Type:** Fixed Geometry

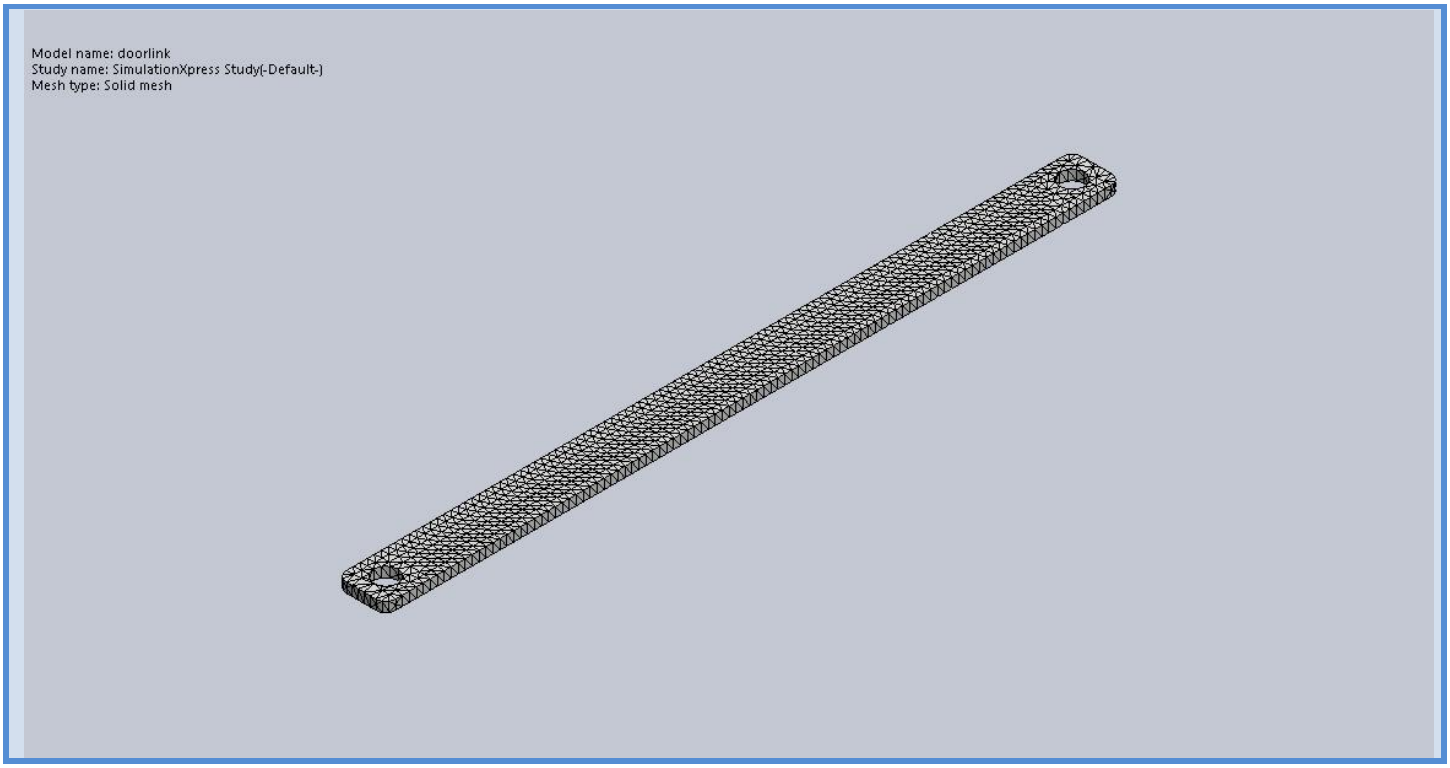
Load name	Load Image	Load Details
Force-4		**Entities:** 1 face(s) **Type:** Apply normal force **Value:** 20 N **Phase Angle:** 0 **Units:** deg
Force-5		**Entities:** 1 face(s) **Type:** Apply normal force **Value:** 10 N **Phase Angle:** 0 **Units:** deg

Mesh Information

Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.714404 cm
Tolerance	0.0357202 cm
Mesh Quality	High

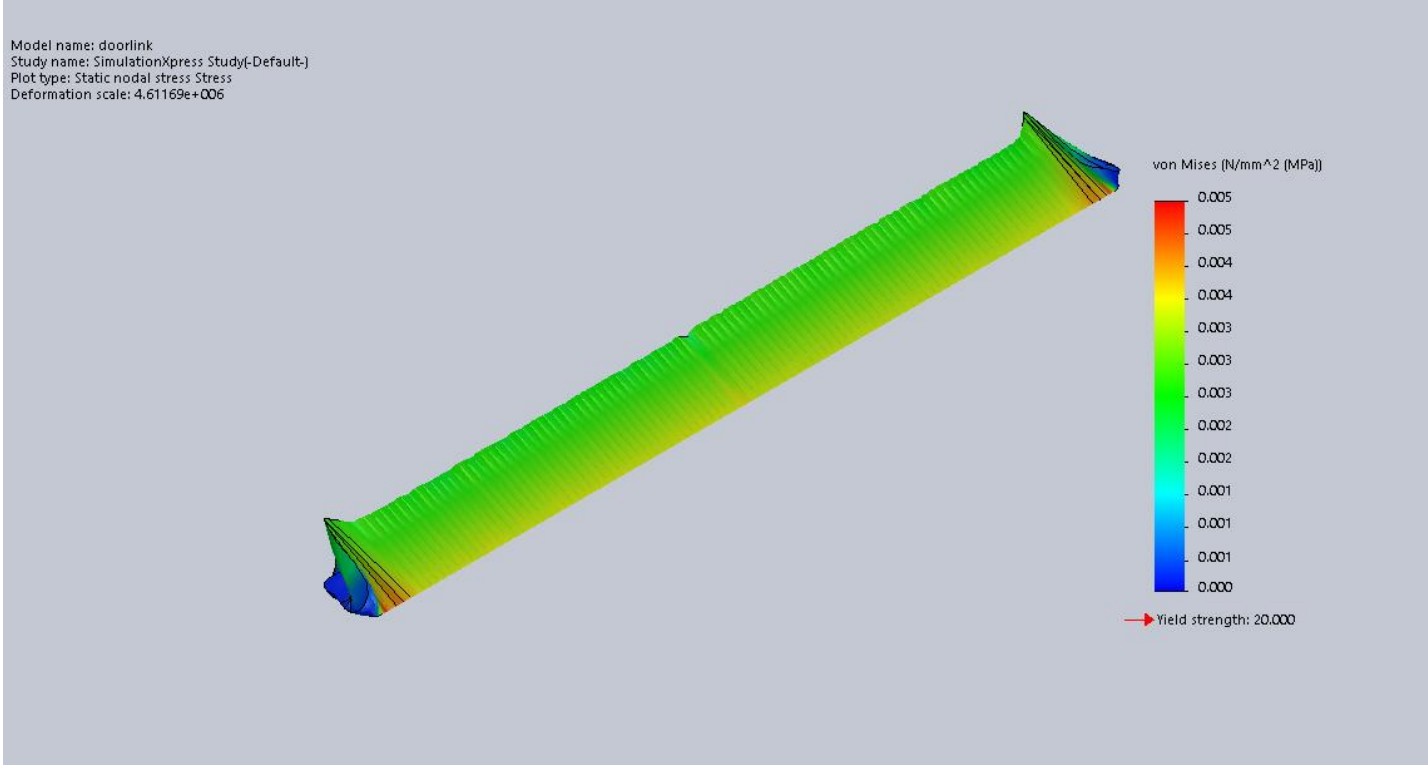
Mesh Information - Details

Total Nodes	14953
Total Elements	8488
Maximum Aspect Ratio	4.4992
% 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:	LEXXY


Model name: doorlink
Study name: SimulationXpress Study(-Default-)
Mesh type: Solid mesh

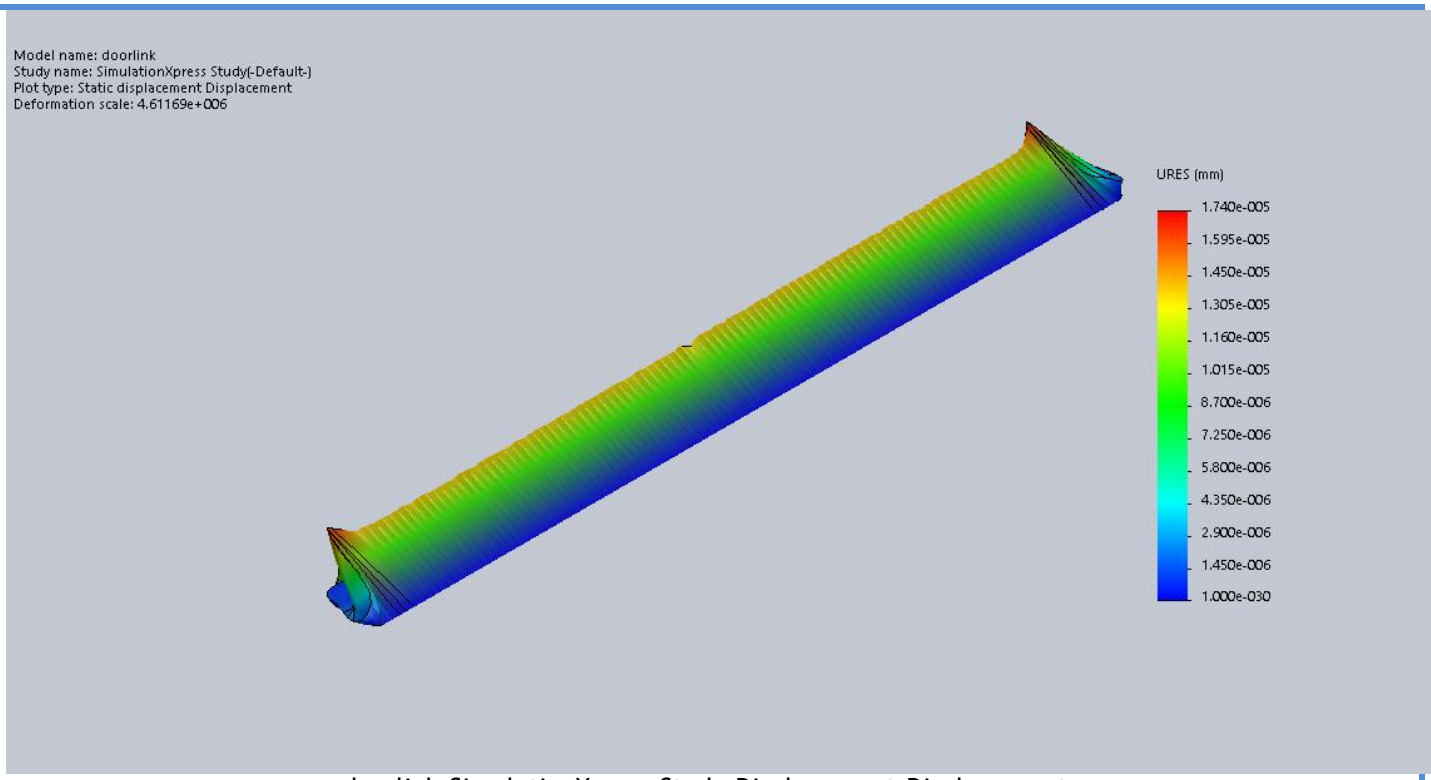
Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	0.00011296 N/mm^2 (MPa) Node: 9864	0.00512363 N/mm^2 (MPa) Node: 9125



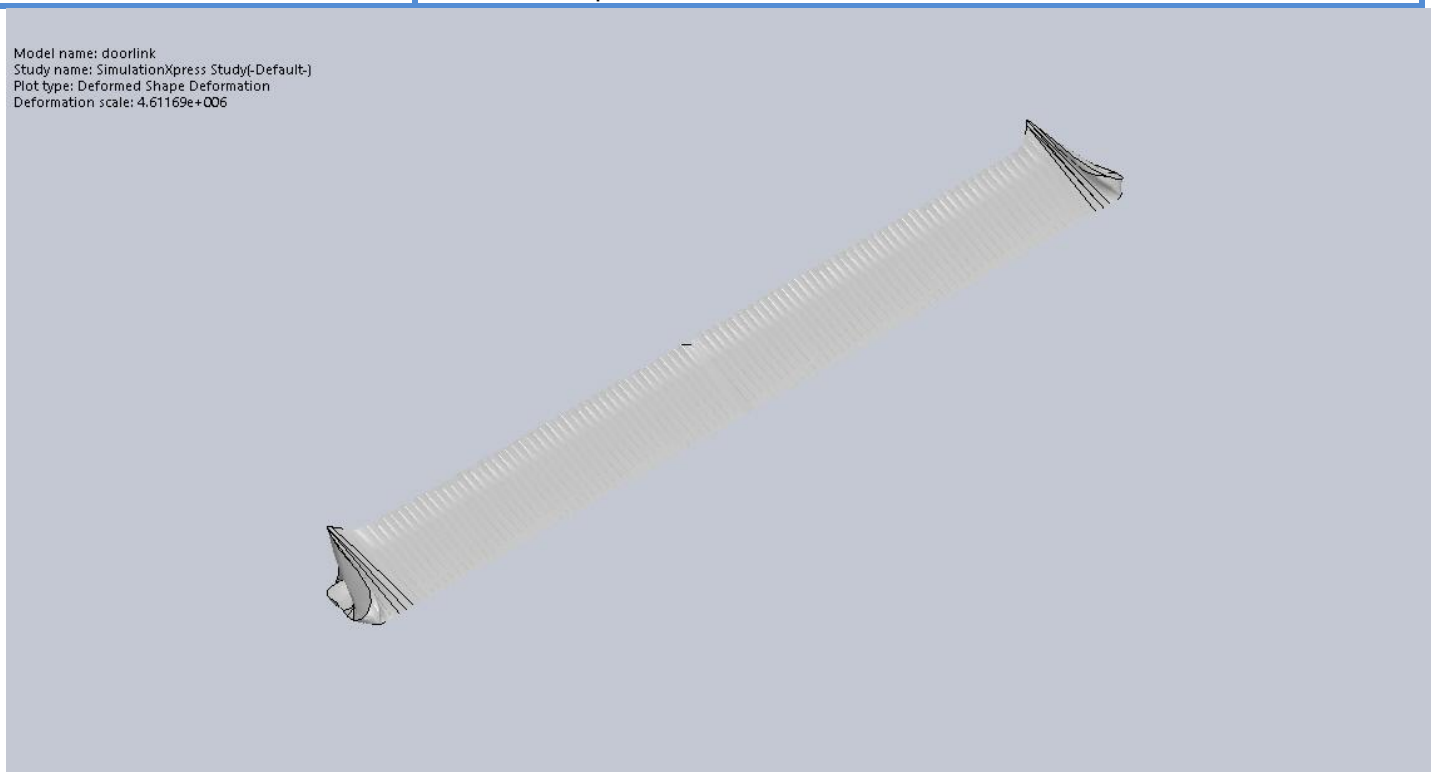
doorlink-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0 mm Node: 7	1.73991e-005 mm Node: 13964



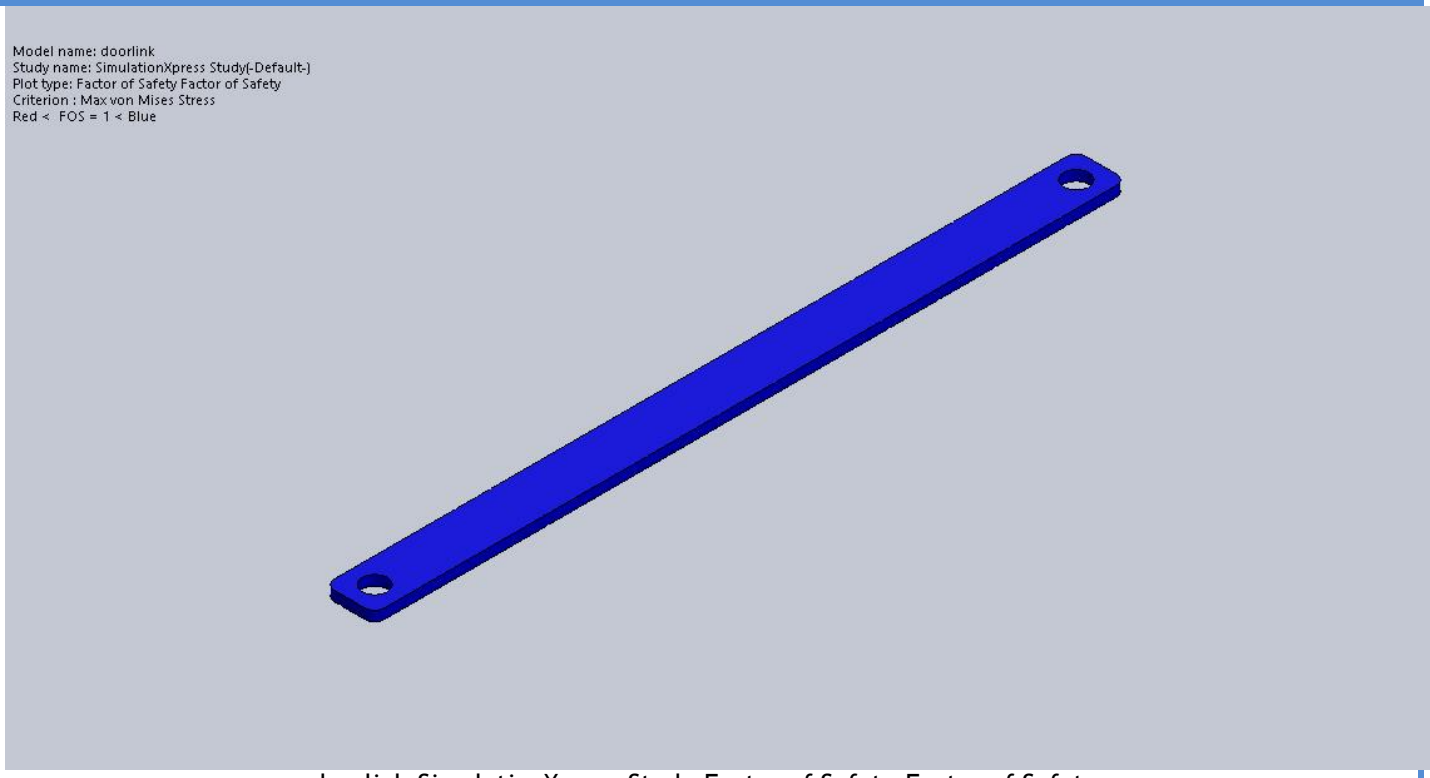
doorlink-SimulationXpress Study-Displacement-Displacement

Name	Type
Deformation	Deformed Shape



doorlink-SimulationXpress Study-Displacement-Deformation

Name	Type	Min	Max
Factor of Safety	Max von Mises Stress	3903.48 Node: 9125	177054 Node: 9864



doorlink-SimulationXpress Study-Factor of Safety-Factor of Safety

Conclusion