

# Simulation of EX02\_Hsu\_01

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

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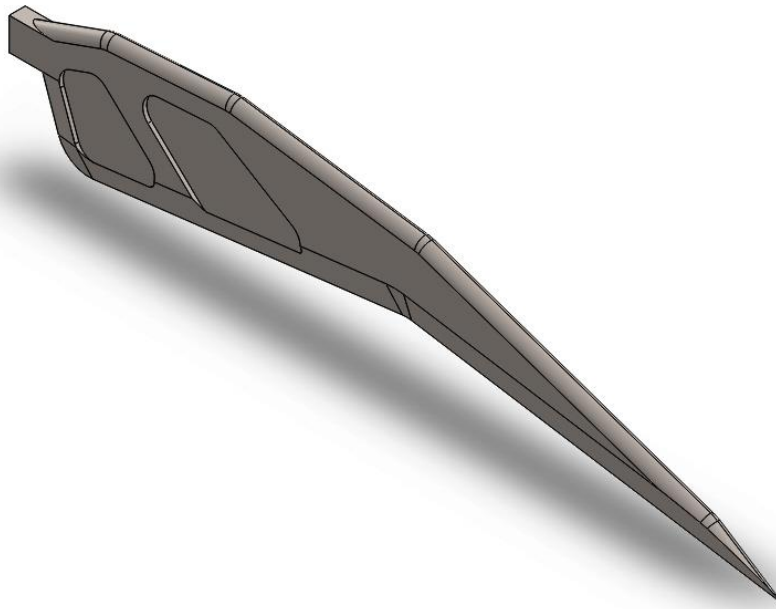
## Description

No Data




# Assumptions

## Model Information

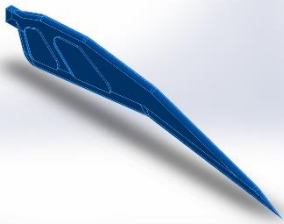


Model name: EX02\_Hsu\_01  
Current Configuration: Default

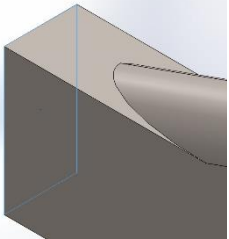
### Solid Bodies

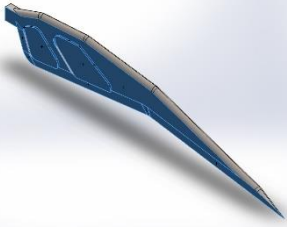
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Chamfer1 	Solid Body	Mass:3.05398 kg Volume:0.000396621 m <sup>3</sup> Density:7700 kg/m <sup>3</sup> Weight:29.929 N	C:\Users\Labs.METID\Downloads\Project one\Project one\Blade and pin\EX02_Hsu_01.SLDPRT Jun 08 18:16:28 2018

## Material Properties

Model Reference	Properties	Components
	<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>	SolidBody 1(Chamfer1)(EX02_Hsu_01)

## 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> 16 face(s) <b>Type:</b> Apply normal force <b>Value:</b> 10 N



## Mesh information

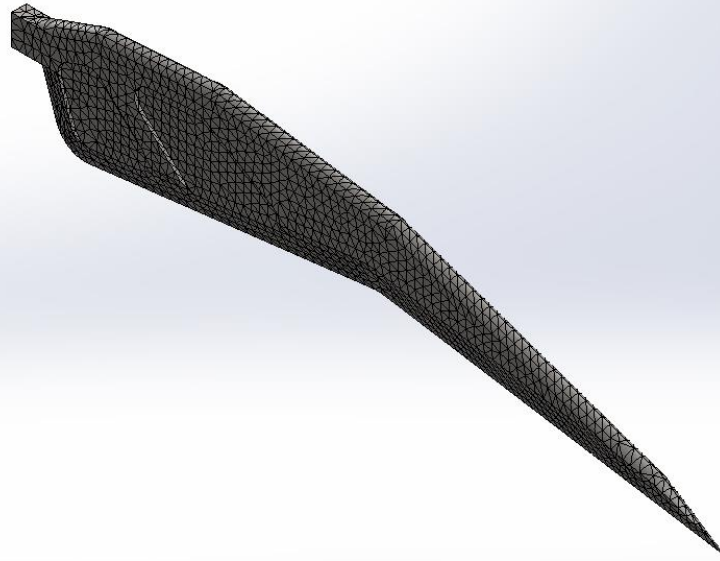
Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.289342 in
Tolerance	0.0144671 in
Mesh Quality Plot	High

## Mesh information - Details

Total Nodes	15120
Total Elements	8459
Maximum Aspect Ratio	18.277
% of elements with Aspect Ratio < 3	96.1
% of elements with Aspect Ratio > 10	0.106
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:01
Computer name:	V511A-05



Model name: EX02\_Hsu\_01  
Study name: SimulationXpress Study-(Default)  
Mesh type: Solid Mesh



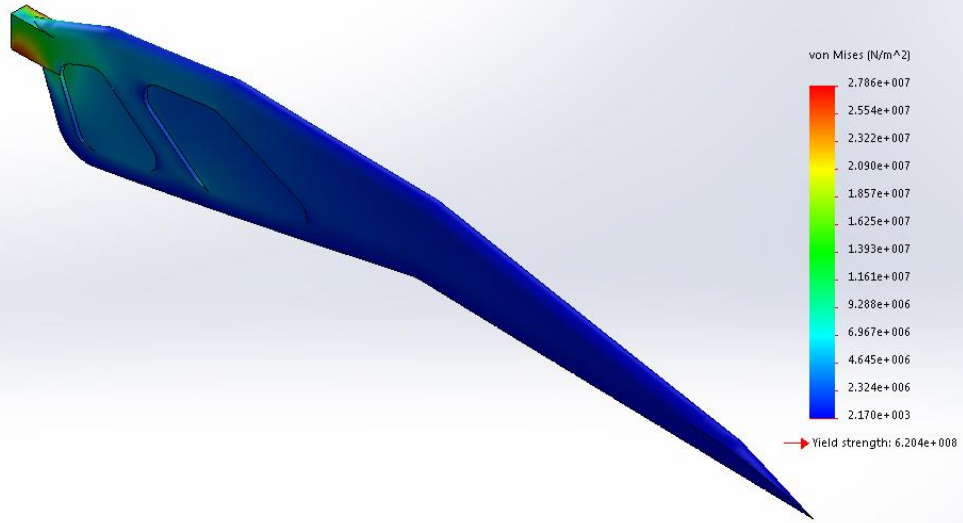
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# Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	2.170e+003N/m <sup>2</sup> Node: 6424	2.786e+007N/m <sup>2</sup> Node: 15073

Model name: EX02\_Hsu\_01  
 Study name: SimulationXpress Study(-Default-)  
 Plot type: Static nodal stress Stress  
 Deformation scale: 88.2031

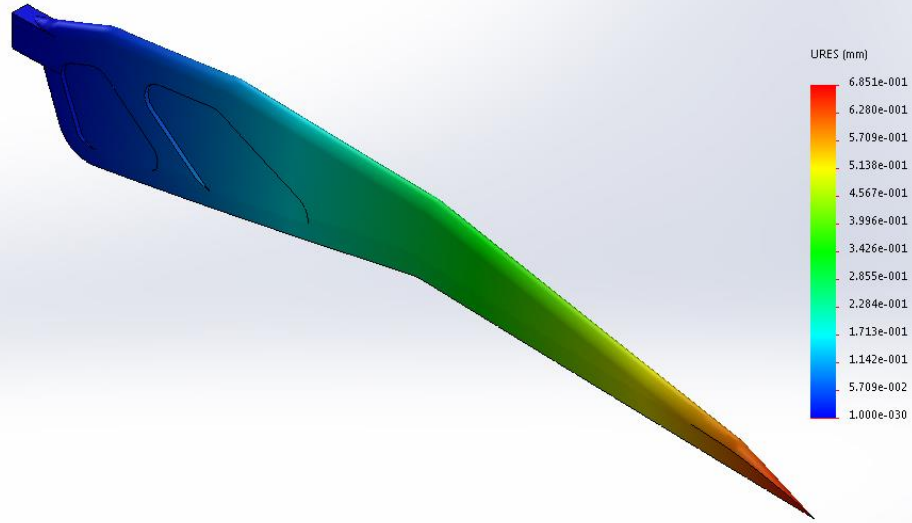


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EX02\_Hsu\_01-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0.000e+000mm Node: 7	6.851e-001mm Node: 466

Model name: EX02\_Hsu\_01  
 Study name: SimulationXpress Study(-Default-)  
 Plot type: Static displacement Displacement  
 Deformation scale: 88.2031

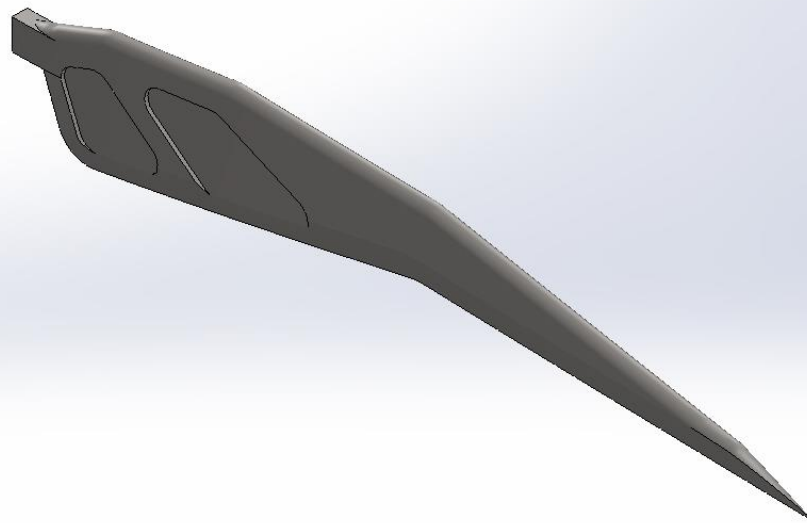


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EX02\_Hsu\_01-SimulationXpress Study-Displacement-Displacement

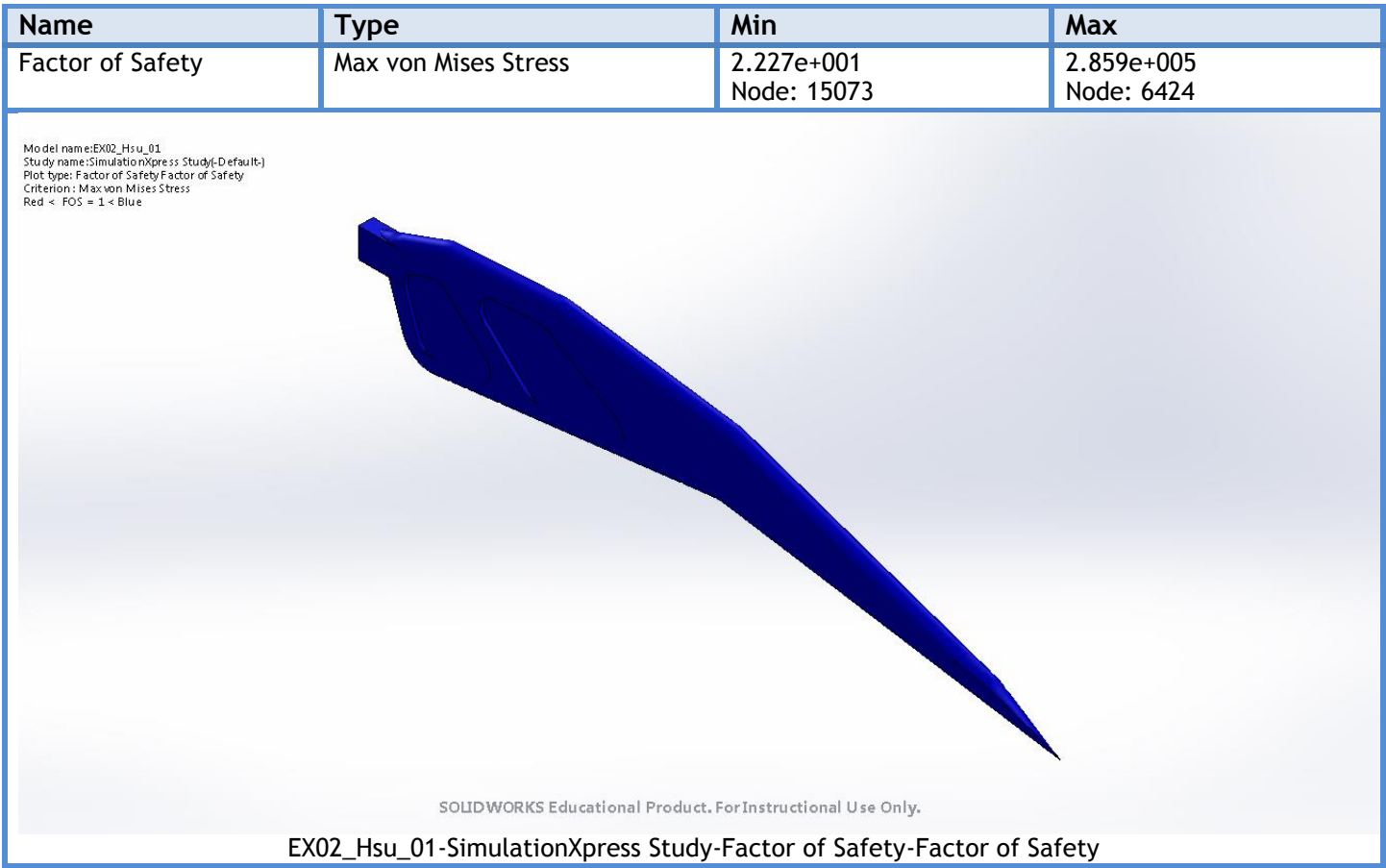
Name	Type
Deformation	Deformed shape

Model name: EX02\_Hsu\_01  
 Study name: SimulationXpress Study(-Default-)  
 Plot type: Deformed shape Deformation  
 Deformation scale: 88.2031



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EX02\_Hsu\_01-SimulationXpress Study-Displacement-Deformation



## Conclusion