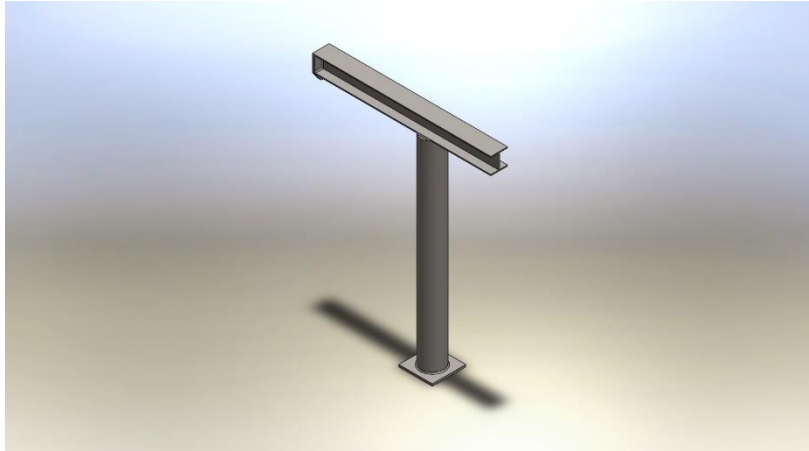




SKYLINE FALL PROTECTION  
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## Simulation of TEST DAVIT

Date: Friday, February 19, 2016  
Designer: COREY CHANDLER  
Study name: Study 1  
Analysis type: Static

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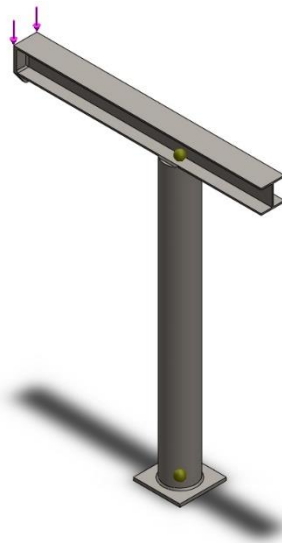
**Description**  
No Data





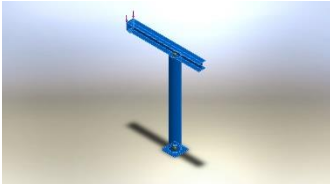
## Assumptions

## Model Information



Model name: TEST DAVIT  
 Current Configuration: Default

### Beam Bodies:

Document Name and Reference	Formulation	Properties	Document Path/Date Modified
Beam-1(Chamfer4) 	Beam - Uniform C/S	Section Standard-Custom Section Area: 76.0061in <sup>2</sup> Length:71.625in Volume:1424.2in <sup>3</sup> Mass Density:0.283599lb/in <sup>3</sup> Mass:403.901lb Weight:403.627lbf	C:\Users\Corey\Documents\SOLID WORKS DRAWING FILES\DOW\DOW NEW CONSTRUCTION\TEST DAVIT.SLDPRT Feb 19 15:42:57 2016





## Study Properties

Study name	Study 1
Analysis type	Static
Mesh type	Beam Mesh
Solver type	FFEPlus
Inplane Effect:	Off
Soft Spring:	Off
Inertial Relief:	Off
Incompatible bonding options	Automatic
Large displacement	Off
Compute free body forces	On
Result folder	SolidWorks document (C:\Users\Corey\Documents\SOLID WORKS DRAWING FILES\DOW\DOW NEW CONSTRUCTION)

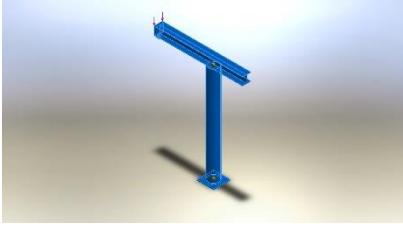
## Units

Unit system:	English (IPS)
Length/Displacement	in
Temperature	Fahrenheit
Angular velocity	Hertz
Pressure/Stress	psi



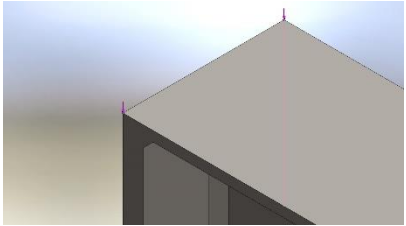


## Material Properties

Model Reference	Properties	Components
	<b>Name:</b> ASTM A36 Steel <b>Model type:</b> Linear Elastic Isotropic <b>Default failure criterion:</b> Unknown <b>Yield strength:</b> 36259.4 psi <b>Tensile strength:</b> 58015.1 psi <b>Elastic modulus:</b> 2.90075e+007 psi <b>Poisson's ratio:</b> 0.26 <b>Mass density:</b> 0.283599 lb/in <sup>3</sup> <b>Shear modulus:</b> 1.15015e+007 psi	SolidBody 1(Chamfer4)(TEST DAVIT)
Curve Data:N/A		

## Loads and Fixtures

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

Load name	Load Image	Load Details
Force-1		<b>Entities:</b> 2 vertex(s) <b>Reference:</b> Edge< 1 > <b>Type:</b> Apply force <b>Values:</b> ---, ---, 5000 lbf <b>Moments:</b> ---, ---, --- lbf·in





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COREY CHANDLER  
2/19/2016

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## Connector Definitions

No Data

## Contact Information

No Data





## Mesh Information

Mesh type	Beam Mesh
-----------	-----------

## Mesh Information - Details

Total Nodes	48
Total Elements	46
Time to complete mesh(hh:mm:ss):	00:00:00
Computer name:	DEATHSTAR

Model name: TEST DAVIT  
Study name: Study 1  
Mesh type:



## Sensor Details

No Data





## Resultant Forces

### Reaction Forces

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	lbf	0.000795428	10000	-4.04717e-020	10000

### Reaction Moments

Selection set	Units	Sum X	Sum Y	Sum Z	Resultant
Entire Model	lbf·in	9.24891e-011	-3.14849e-024	-400000	400000

## Beams

### Beam Forces

Beam Name	Joints	Axial(lbf)	Shear1(lbf)	Shear2(lbf)	Moment1(lbf·in)	Moment2(lbf·in)	Torque(lbf·in)
Beam-1(Chamfer4)	1	10000	4.04717e-020	0.000795428	400000	-9.24891e-011	-3.14849e-024
	2	0.00105602	1.46559e-009	0.539086	0.885784	-1.15916e-009	-6.20665e-024

### Beam Stresses

Beam Name	Joints	Axial(psi)	Bending Dir1(psi)	Bending Dir2(psi)	Torsional(psi)	Worst Case(psi)
Beam-1(Chamfer4)	1	-848.826	-19230	-4.44642e-012	-7.56821e-026	20078.9
	2	-8.96375e-005	0.0425842	5.57266e-011	-1.49193e-025	0.0426738

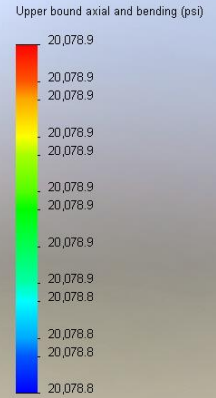




## Study Results

Name	Type	Min	Max
Stress1	TXY: Shear in Y Dir. on YZ Plane	20078.8 psi Element: 46	20078.9 psi Element: 42

Model name: TEST DAVIT  
 Study name: Study 1  
 Plot type: Upper bound axial and bending Stress1  
 Deformation scale: 17.6054

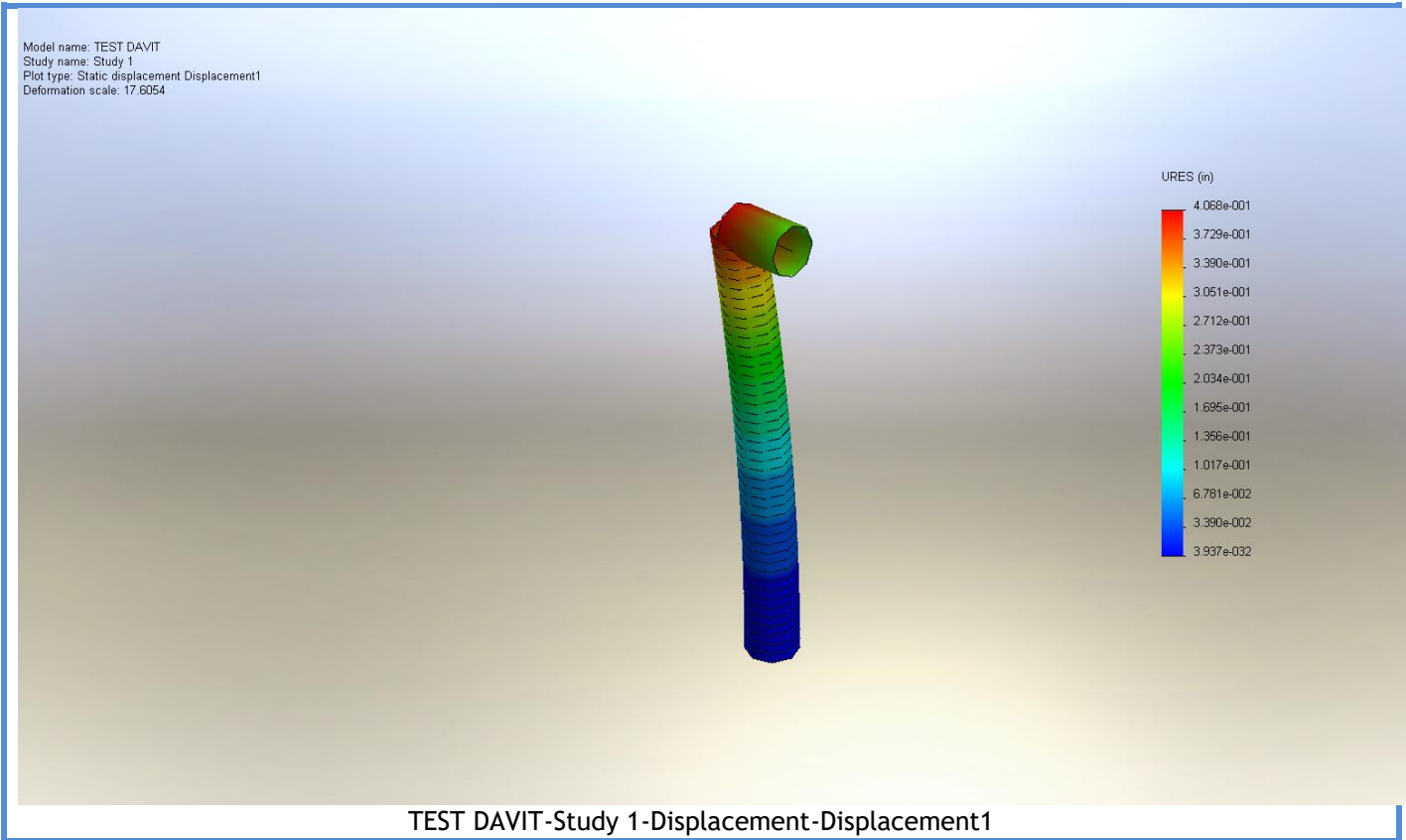


TEST DAVIT-Study 1-Stress-Stress1

Name	Type	Min	Max
Displacement1	URES: Resultant Displacement	0 in Node: 1	0.40684 in Node: 46

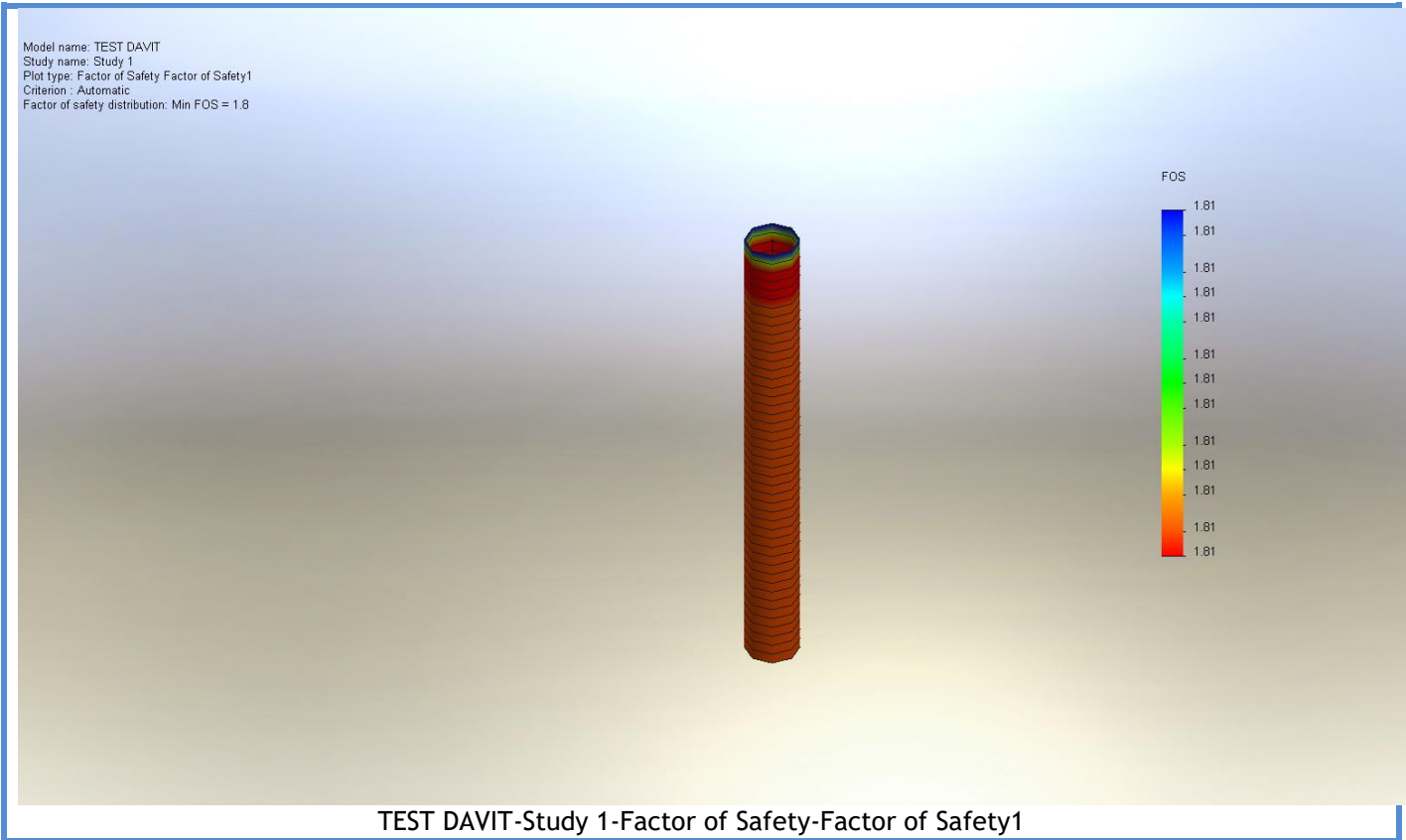




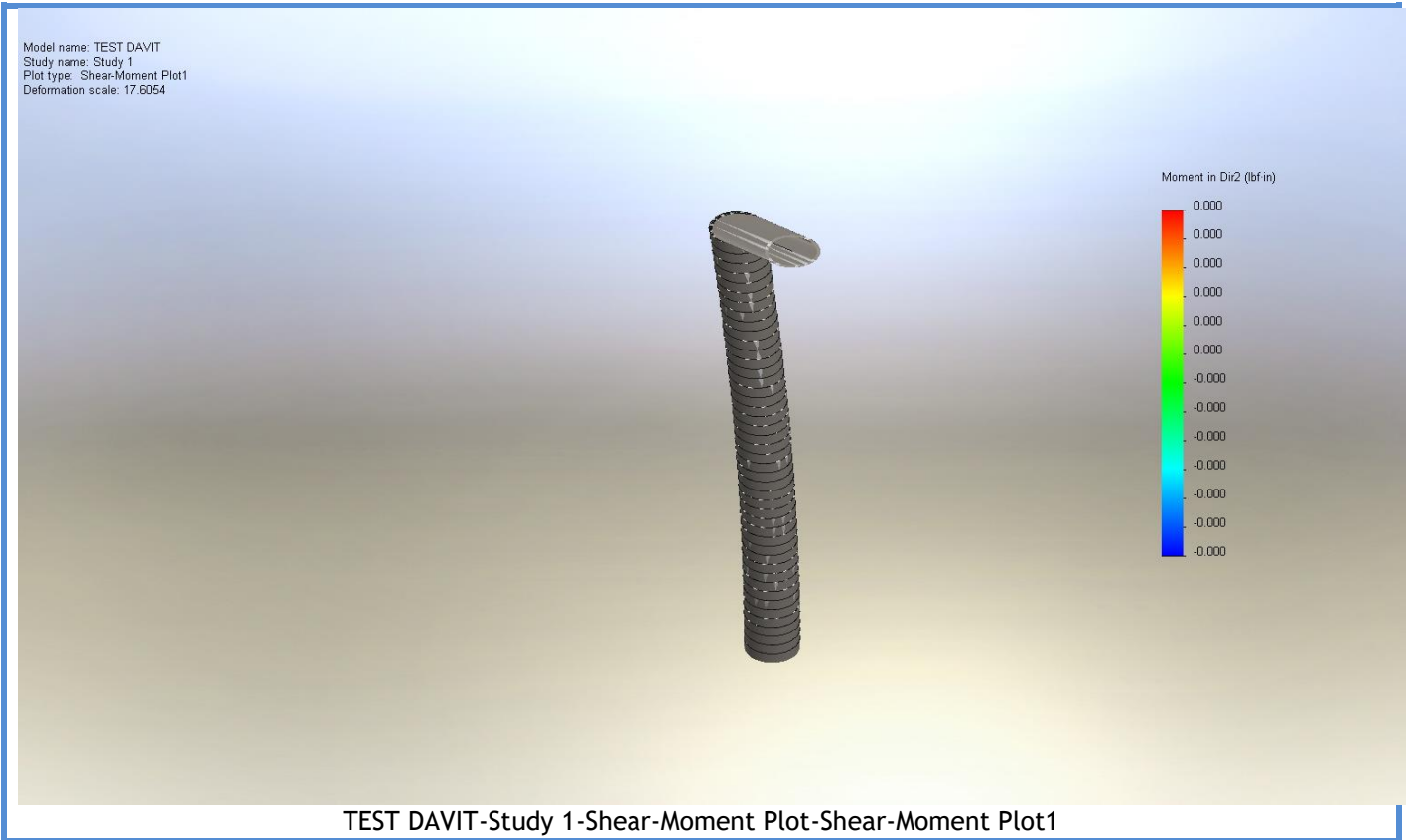


Name	Type	Min	Max
Factor of Safety1	Automatic	1.80585 Node: 42	1.80585 Node: 47

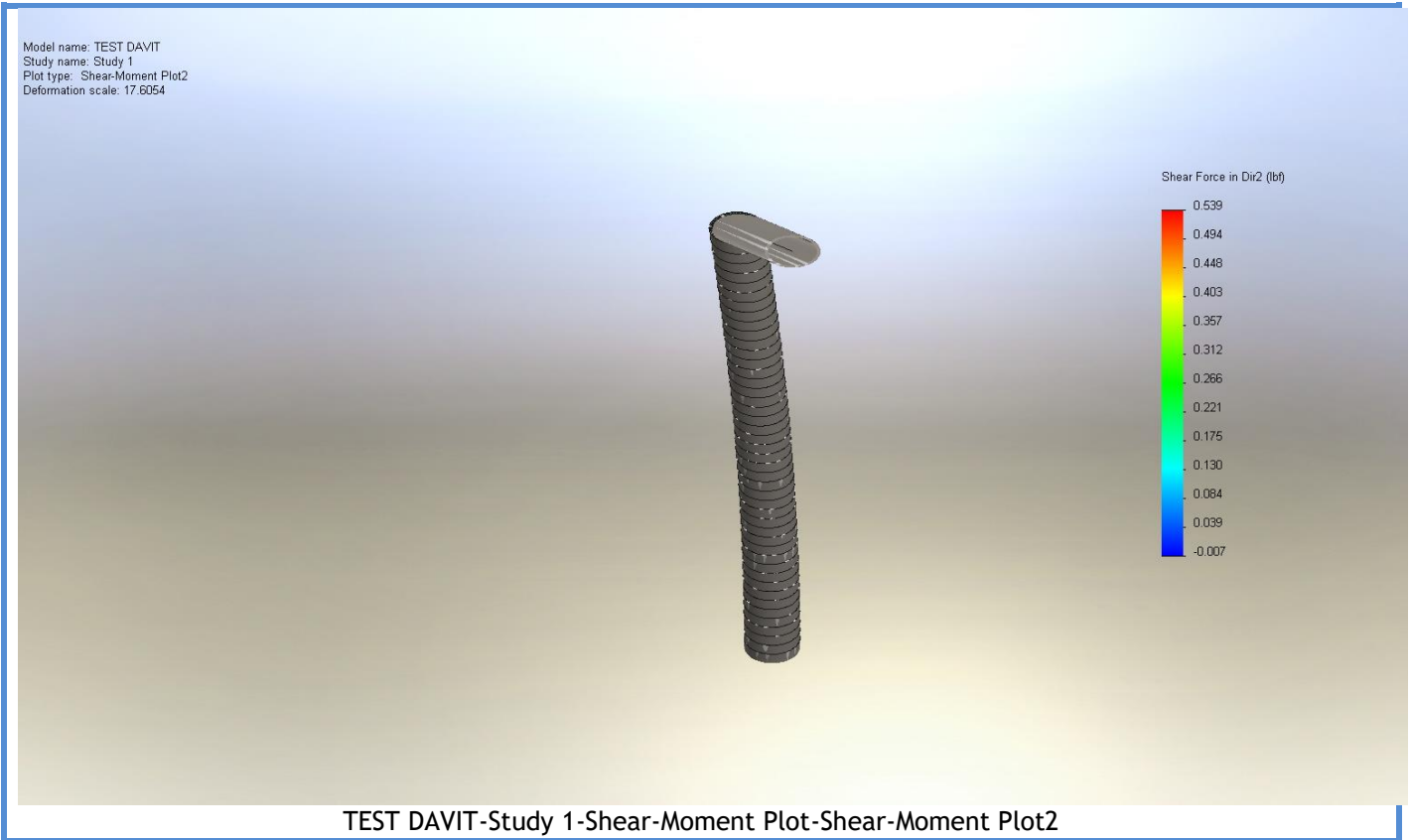




Name	Type
Shear-Moment Plot1	Moment in Dir2



Name	Type
Shear-Moment Plot2	Shear Force in Dir2

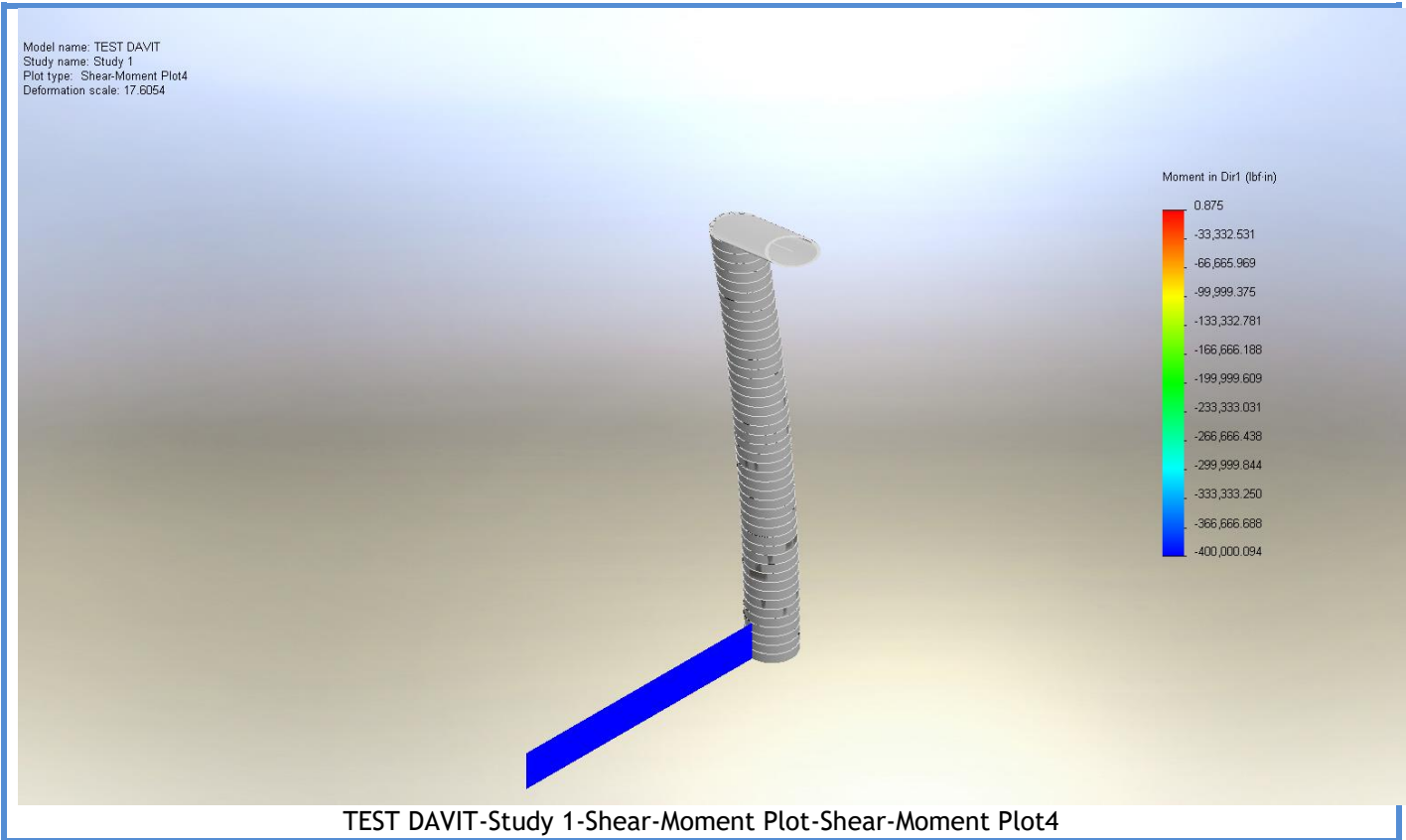


Name	Type
Shear-Moment Plot3	Shear Force in Dir1



Name	Type
Shear-Moment Plot4	Moment in Dir1





## Conclusion

