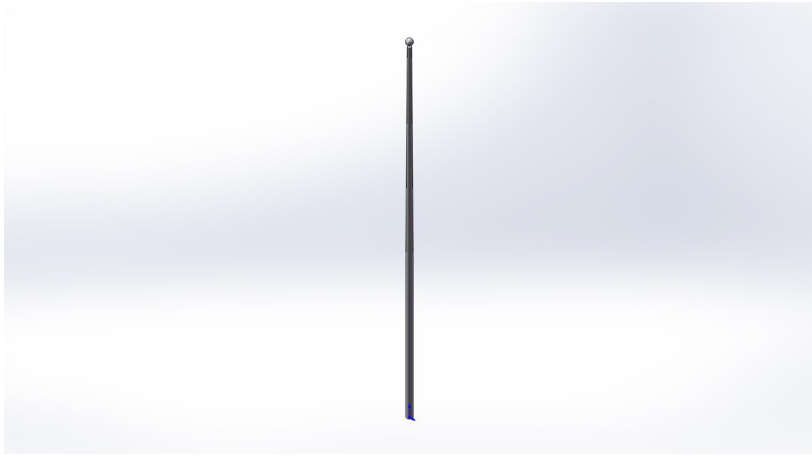




The simulation object as 10m aluminum flagpole with flag 2000x4000 mm

Date: 2 October , 2025

Designer: Solidworks

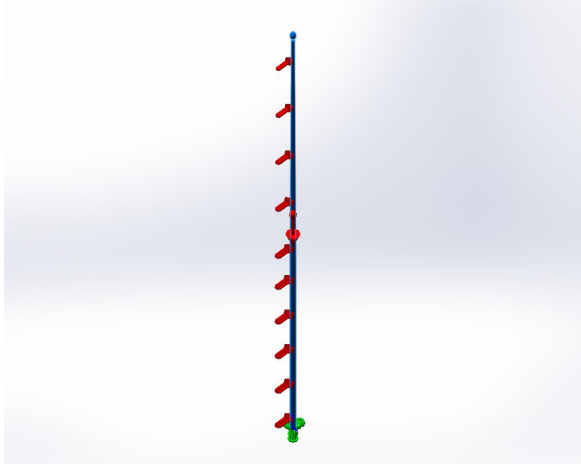
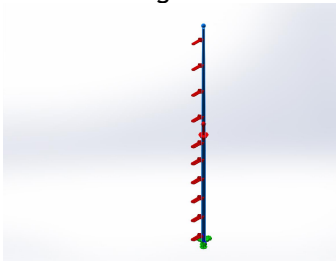
Example name: Example 1

Analysis: static type

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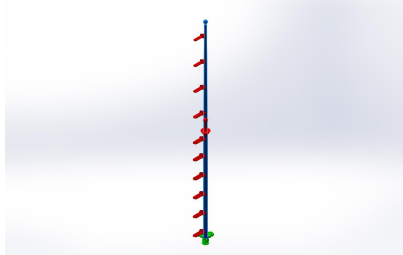
Model Information

 Model name: Example 1 Current configuration: default			
Entity			
The document name and reference	The document name and reference	The document name and reference	The document name and reference
Cutting line 1 	Entity	Weight:62Kgs Volume:0.1421 m^3 Density:2700 kg/m^3 Pulling force:1534.98 N Anchor Bolts:4-M20*800mm	example1.SLDPRT 2 October, 10:32:30 2025

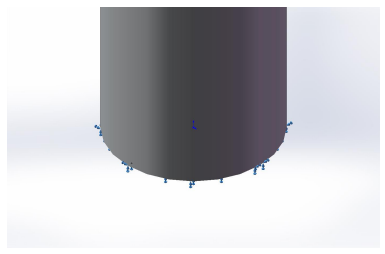
Unit

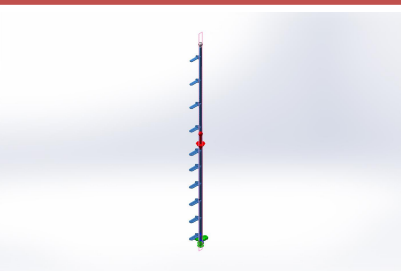
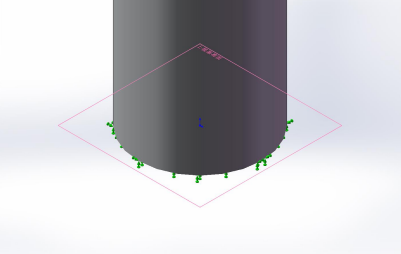
Unit system:	The metric system (MKS)
Length /Displacement	mm
Temperature	Kelvin
Palstance	Radian/section
Pressure /Stress	N/mm ² (MPa)

Material Properties

Model reference	Properties		Parts
	Material:	6063-T6	SolidBody 1(Cutting line 1)(Example1)
	Model type:	Linear elastic isotropic	
	The default failure rule:	Max. von Mises stress	
	Yield strength:	2.15e+008 N/m^2	
	Tensile strength:	2.4e+008 N/m^2	
	Modulus of elasticity:	6.9e+010 N/m^2	
	Poisson ratio:	0.33	
	Mass density:	2700 kg/m^3	
	Shear modulus:	2.58e+010 N/m^2	
	Thermal expansion coefficient:	2.3e-005 /Kelvin	
Curve data:N/A			

Load and fixture

Fixture name	Fixture picture	Fixture details		
Fixture-1		Entity: Face 1 Type: Fixed geometry		
Resultant force				
Parts	X	Y	Z	Resultant Force
Reaction(N)	-0.291331	1537.22	1156.82	1923.87
Countermoment (N-m)	0	0	0	0

Load name	Load picture	Load details
Pressure-1		Entity: Face 3, datum plane 1 Reference: Right datum plane Type: Perpendicular to the datum plane value: 600 Unit: N/m ²
Pressure-2		Reference: Up datum plane Value: 0 0 -9.81 Unit: SI

Resultant force

Reaction

Select group	Unit	Sum X	Sum Y	Sum Z	Resultant force
The whole model	N	-0.291331	1537.22	1156.82	1923.87

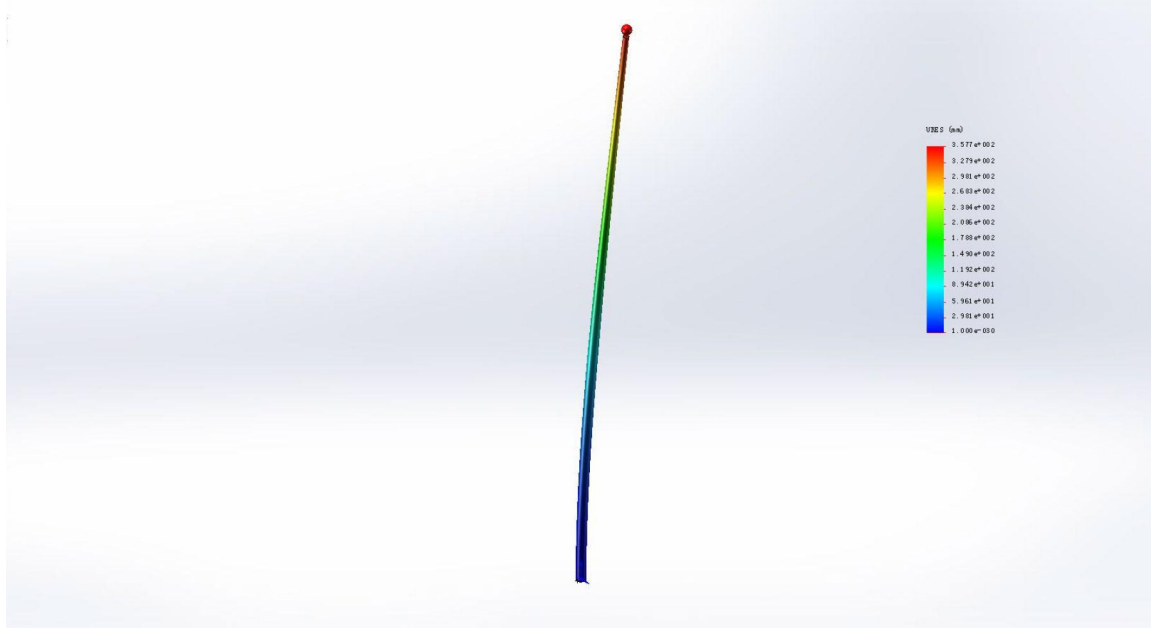
Countermoment

Select group	Unit	Sum X	Sum Y	Sum Z	Resultant force
The whole model	N-m	0	0	0	0

The example results

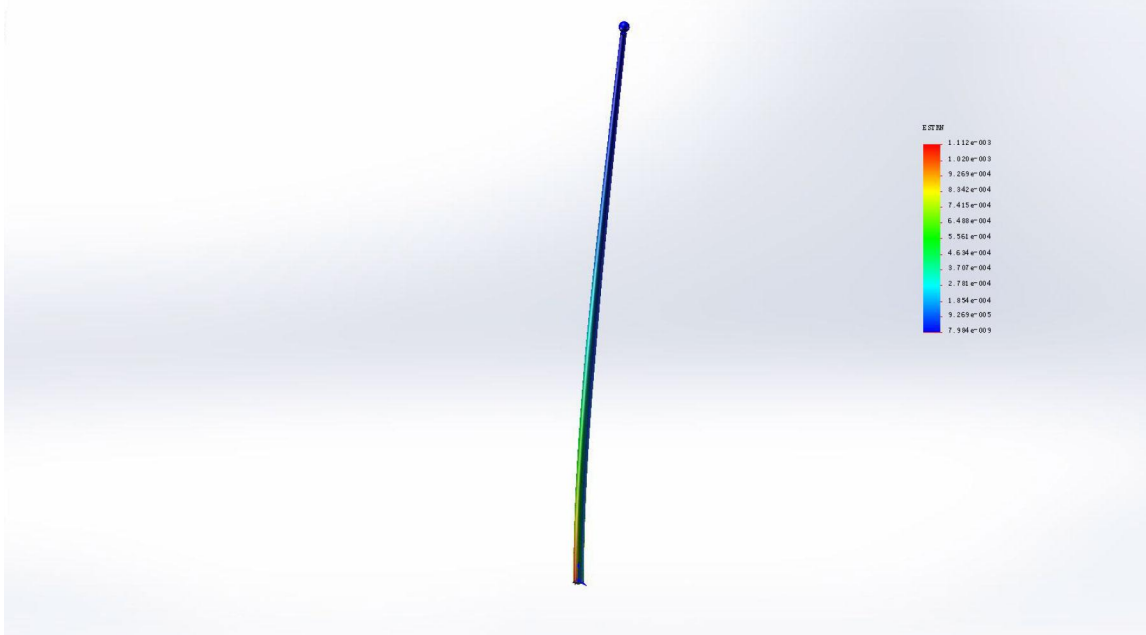


Name	Type	Minimum	Maximum
Displacement 1	URES: resultant displacement	0 mm Section: 23	390.32 mm Section: 57



Part 1-Example 1-Displacement-Displacement 1

Name	Type	Minimum	Maximum
strain 1	ESTRN : Equivalent strain	1.06216e-009 Unit: 109185	0.00185049 Unit: 80038

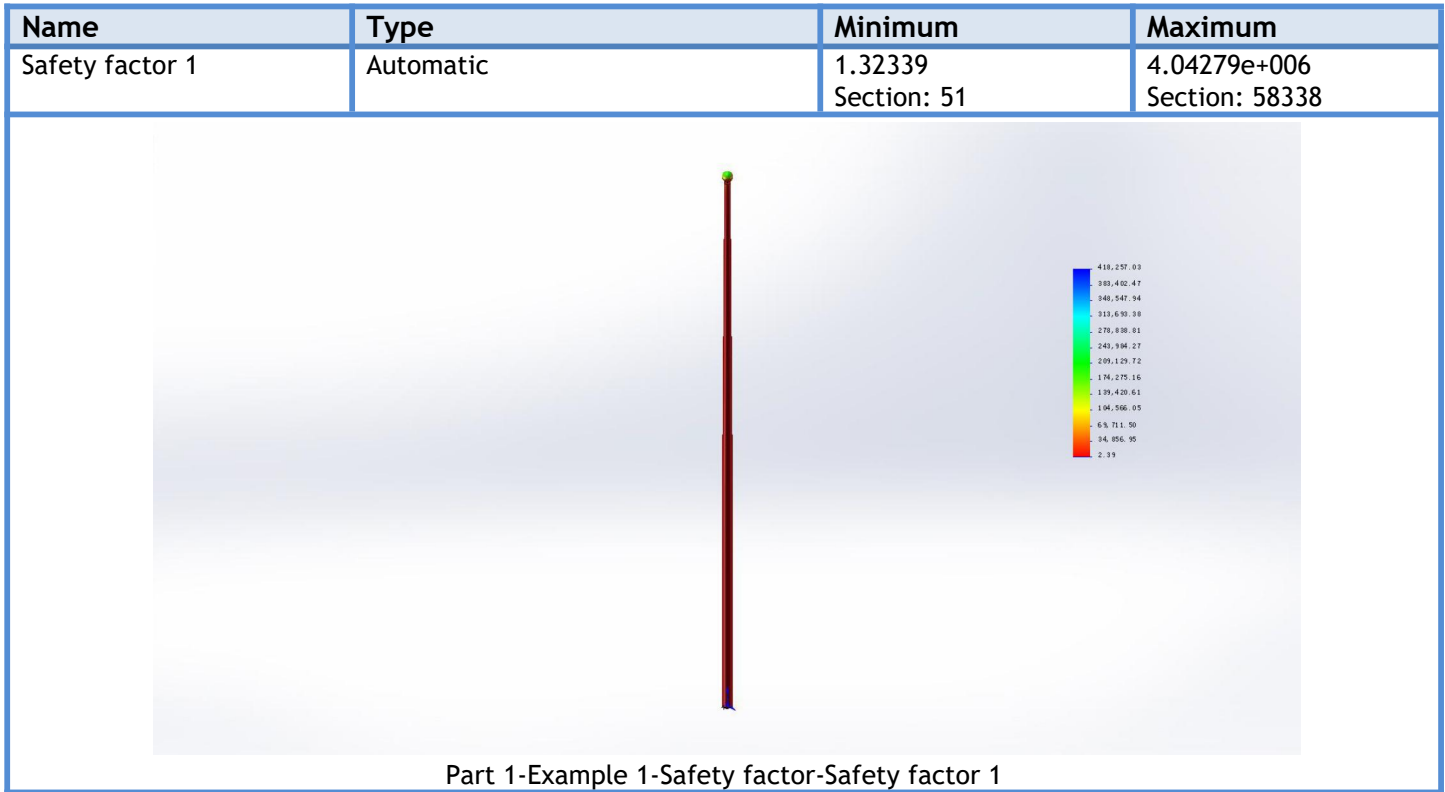


Part 1-Example 1- Strain - Strain 1

Name	Type
Displacement1{1}	Deformed shape



Part 1-Example 1-Displacement-Displacement 1{1}



Conclusion

Load: 850N/m² (wind speed 145km/h) , safety factor 2.16 > 1, so the pole is safe.