

Stress Analysis Report



Analyzed File:	Majakkarunko.iam
Autodesk Inventor Version:	2013 SP2 (Build 170200200, 200)
Creation Date:	29.5.2013, 7:01
Simulation Author:	NJu
Summary:	

☐ **Project Info (iProperties)**

☐ **Summary**

Title	Majakkarunko
Author	NJu

☐ **Project**

Designer	NJu
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☐ **Physical**

Mass	2931,54 kg
Center of Gravity	x=-1250,33 mm y=2113,75 mm z=1270,38 mm

Note: Physical values could be different from Physical values used by FEA reported below.

☐ **Simulation:1**

General objective and settings:

Design Objective	Single Point
Simulation Type	Static Analysis
Last Modification Date	29.5.2013, 6:53
Detect and Eliminate Rigid Body Modes	Yes
Separate Stresses Across Contact Surfaces	No
Motion Loads Analysis	No

Mesh settings:

Avg. Element Size (fraction of model diameter)	0,1
Min. Element Size (fraction of avg. size)	0,2
Grading Factor	1,5
Max. Turn Angle	60 deg
Create Curved Mesh Elements	No
Use part based measure for Assembly mesh	Yes

☐ **Material(s)**

Name	Generic	
General	Mass Density	1 g/cm^3
	Yield Strength	0 MPa
	Ultimate Tensile Strength	0 MPa
Stress	Young's Modulus	0 GPa
	Poisson's Ratio	0 ul
	Shear Modulus	0 GPa

[illegible]

Part Name(s)	EN 10060 - 10 - 1150.ipt	
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	DIN U 100 00000030	
	DIN U 100 00000031	
	DIN U 100 00000032	
	DIN 33,7 x 2,6 00000001	
	DIN 33,7 x 2,6 00000002	
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EN 10060 - 10 - 1150.ipt		
DIN 125-1 A A 21		
DIN 931-1 - replaced by DIN EN 24014 M20 x 60		
DIN 125-1 A A 21		
DIN 934 - replaced by DIN EN 24032/28673/28674 M20		
DIN 125-1 A A 21		
DIN 931-1 - replaced by DIN EN 24014 M20 x 60		
DIN 125-1 A A 21		
DIN 934 - replaced by DIN EN 24032/28673/28674 M20		
DIN 125-1 A A 21		
DIN 931-1 - replaced by DIN EN 24014 M20 x 60		
DIN 125-1 A A 21		
DIN 934 - replaced by DIN EN 24032/28673/28674 M20		
Name	S355J2G3	
General	Mass Density	7,85 g/cm^3
	Yield Strength	207 MPa
	Ultimate Tensile Strength	345 MPa

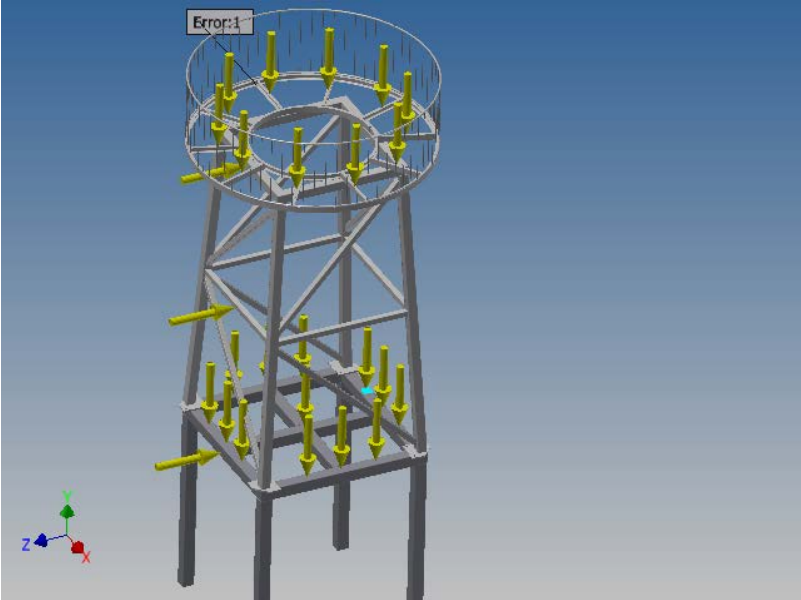
Stress	Young's Modulus	210 GPa
	Poisson's Ratio	0,3 ul
	Shear Modulus	80,7692 GPa
Stress Thermal	Expansion Coefficient	0,000012 ul/c
	Thermal Conductivity	56 W/(m K)
	Specific Heat	460 J/(kg c)
Part Name(s)	Majakkatornin kiinnityslevy.ipt Majakkatornin kiinnityslevy_MIR2.ipt Majakkatornin kiinnityslevy_MIR3.ipt Majakkatornin kiinnityslevy_MIR2_MIR.ipt torni lankamalli2.ipt Skeleton0002.ipt Majakkatornin kiinnityslevy.ipt Majakkatornin kiinnityslevy_MIR.ipt Majakkatornin kiinnityslevy_MIR1.ipt Majakkatornin kiinnityslevy_MIR_MIR.ipt Näköalatasanne lankamalli.ipt Skeleton0001.ipt majakan ulkokaide lankamalli.ipt Skeleton0002.ipt Näköalatasanne lankamalli.ipt Skeleton0001.ipt majakan ulkokaide lankamalli.ipt Skeleton0002.ipt	

Operating conditions

Force:7

Load Type	Force
Magnitude	20000,000 N
Vector X	0,000 N
Vector Y	-20000,000 N
Vector Z	-0,000 N

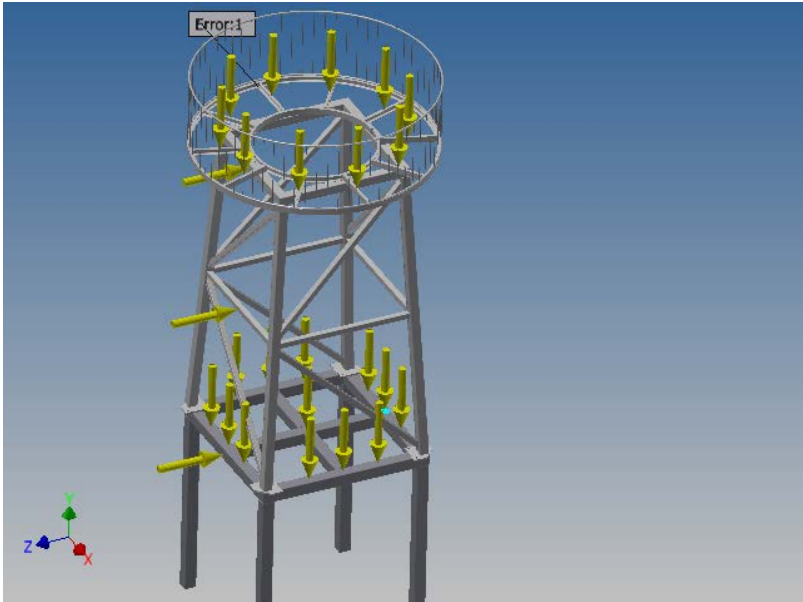
Selected Face(s)



Force:8

Load Type	Force
Magnitude	20000,000 N
Vector X	0,000 N
Vector Y	-20000,000 N
Vector Z	-0,000 N

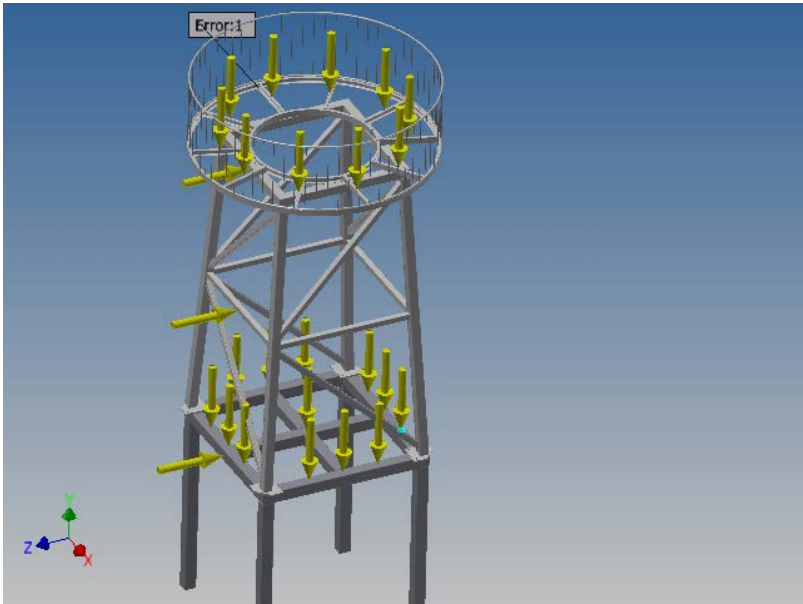
Selected Face(s)



☐ **Force:9**

Load Type	Force
Magnitude	20000,000 N
Vector X	0,000 N
Vector Y	-20000,000 N
Vector Z	-0,000 N

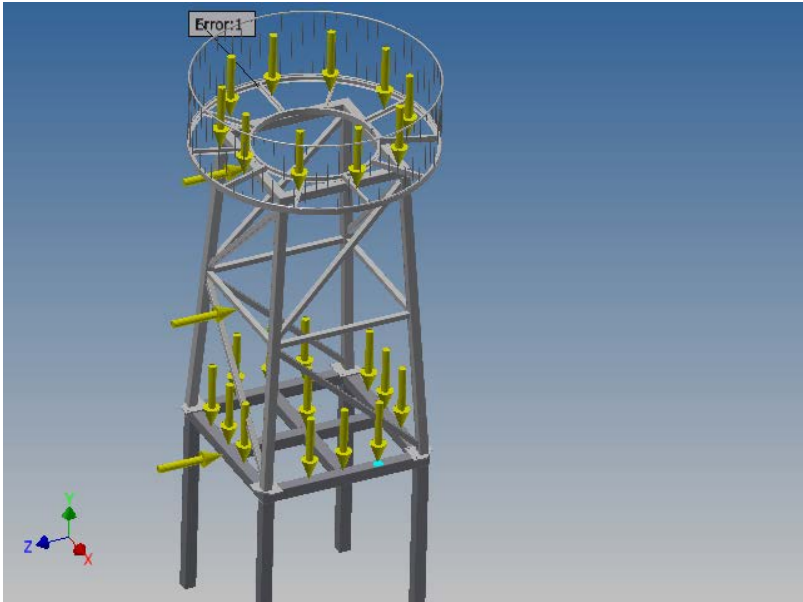
☐ **Selected Face(s)**



☐ **Force:10**

Load Type	Force
Magnitude	20000,000 N
Vector X	0,000 N
Vector Y	-20000,000 N
Vector Z	0,000 N

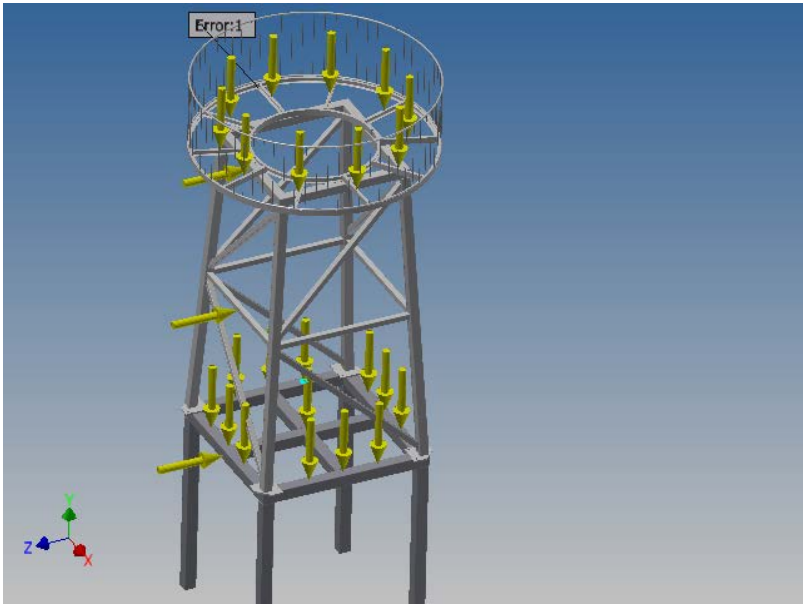
☐ **Selected Face(s)**



☐ **Force:11**

Load Type	Force
Magnitude	20000,000 N
Vector X	-0,000 N
Vector Y	-20000,000 N
Vector Z	0,000 N

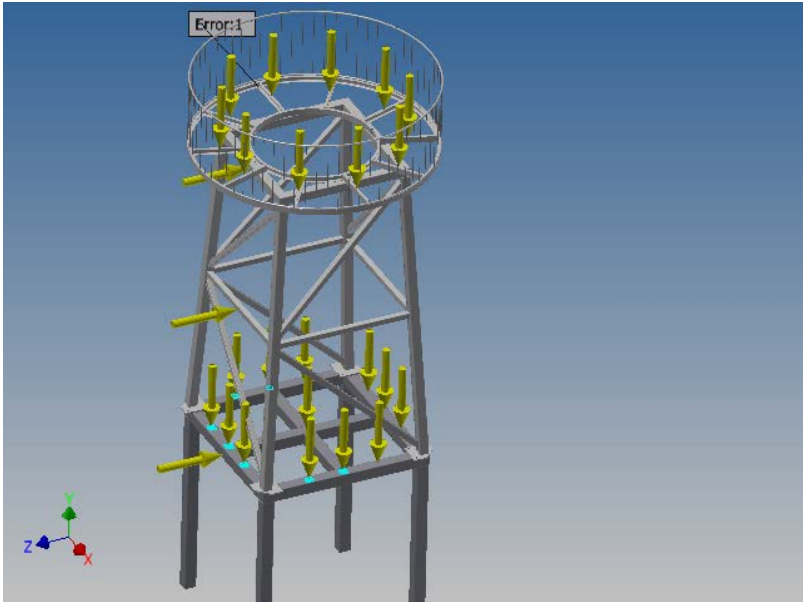
☐ **Selected Face(s)**



☐ **Force:12**

Load Type	Force
Magnitude	20000,000 N
Vector X	-0,000 N
Vector Y	-20000,000 N
Vector Z	0,000 N

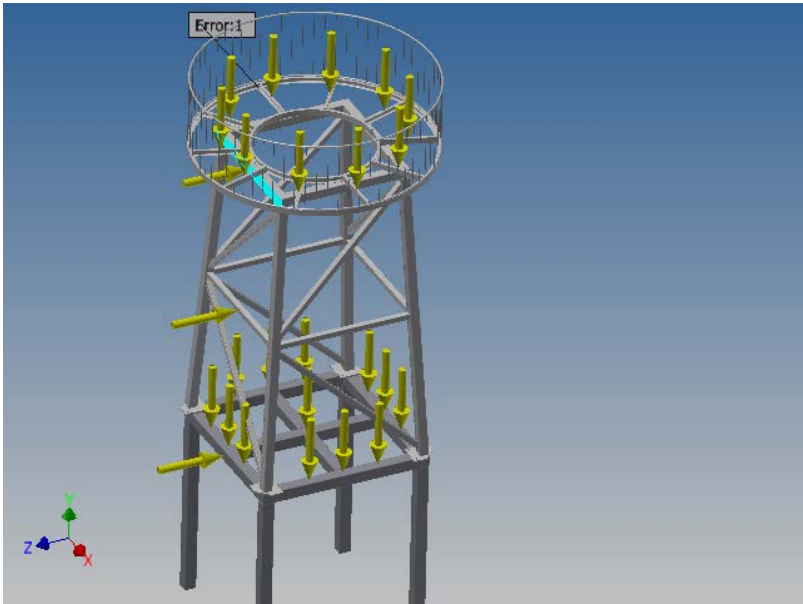
☐ **Selected Face(s)**



☐ **Force:1**

Load Type	Force
Magnitude	3000,000 N
Vector X	-0,000 N
Vector Y	-0,000 N
Vector Z	-3000,000 N

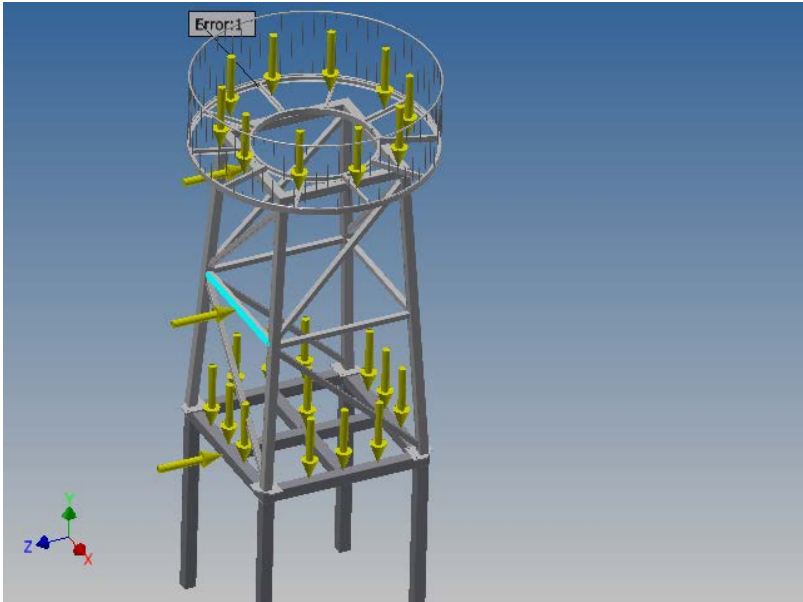
☐ **Selected Face(s)**



☐ **Force:2**

Load Type	Force
Magnitude	9000,000 N
Vector X	-0,000 N
Vector Y	-0,000 N
Vector Z	-9000,000 N

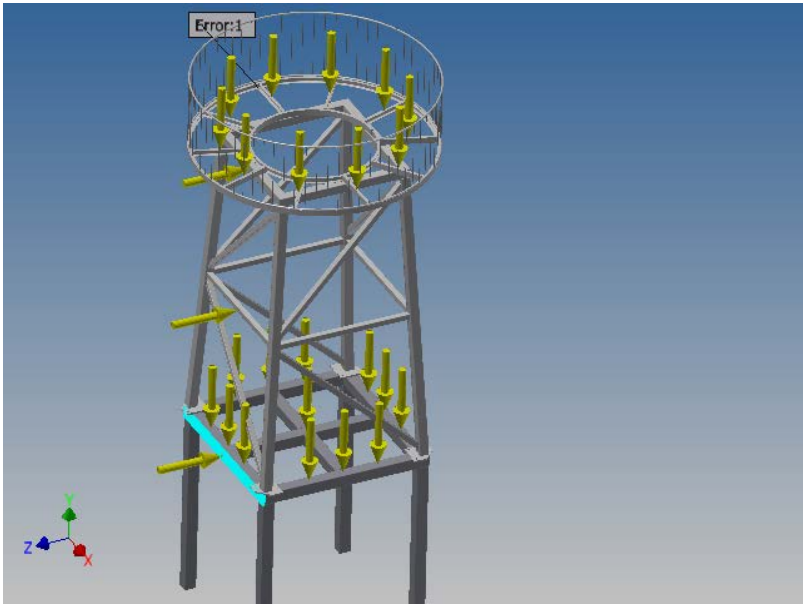
☐ **Selected Face(s)**



Force:3

Load Type	Force
Magnitude	10000,000 N
Vector X	0,000 N
Vector Y	0,000 N
Vector Z	-10000,000 N

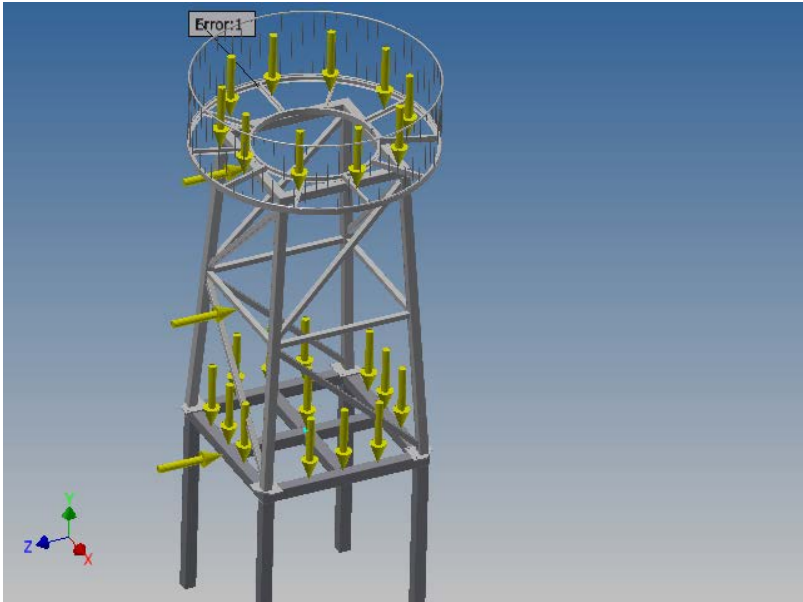
Selected Face(s)



Force:4

Load Type	Force
Magnitude	20000,000 N
Vector X	0,000 N
Vector Y	-20000,000 N
Vector Z	0,000 N

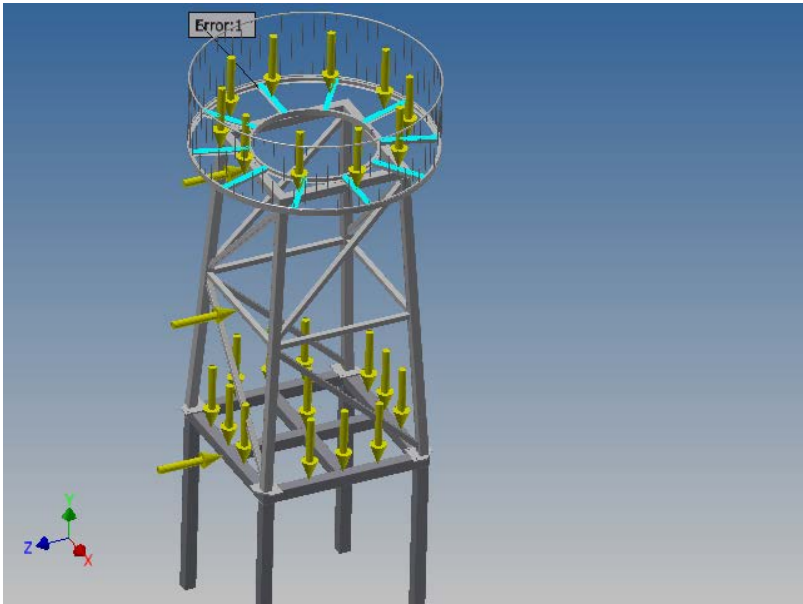
Selected Face(s)



Force:5

Load Type	Force
Magnitude	2500,000 N
Vector X	-0,000 N
Vector Y	-2500,000 N
Vector Z	0,000 N

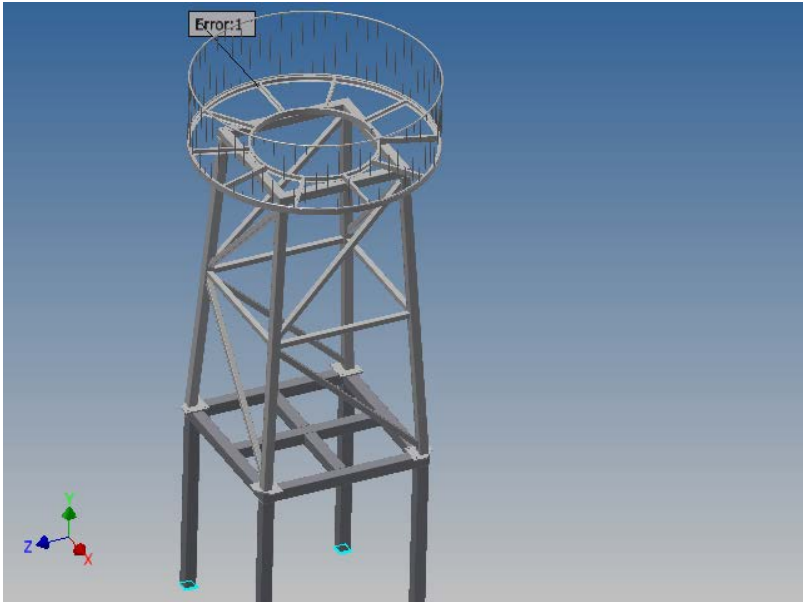
Selected Face(s)



Fixed Constraint:1

Constraint Type	Fixed Constraint
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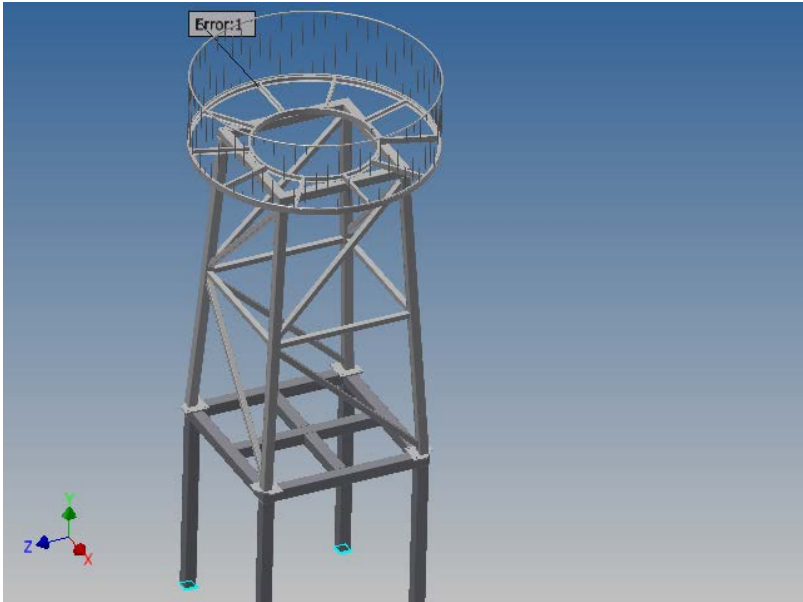
Selected Face(s)



Fixed Constraint:2

Constraint Type Fixed Constraint

Selected Face(s)



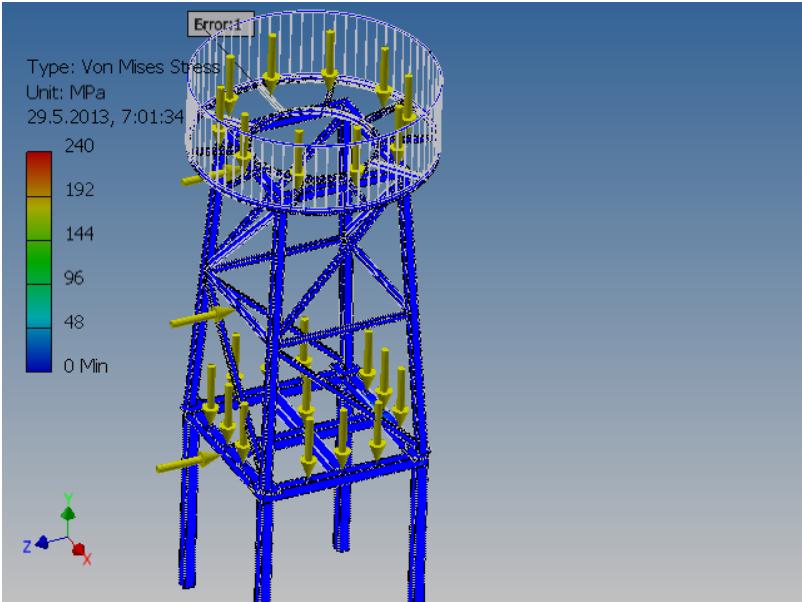
Results

Result Summary

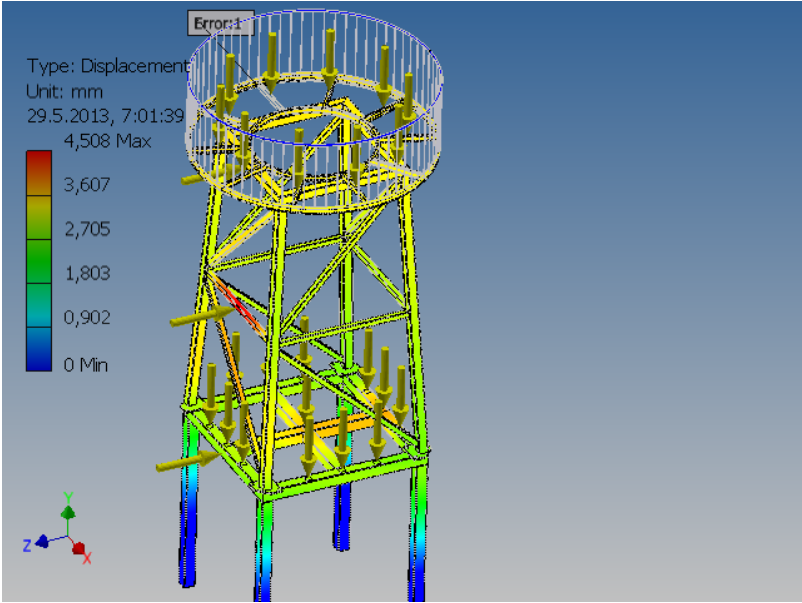
Name	Minimum	Maximum
Volume	355740000 mm^3	
Mass	2795,95 kg	
Von Mises Stress	0 MPa	1159,24 MPa
Displacement	0 mm	4,50849 mm

Figures

Von Mises Stress



Displacement



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