

Design Analysis
Teleso silentbloku

Created by

Author: Bláha David
Department:
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Analysis Parameters Information

Load Case Multipliers

Static Stress with Linear Material Models may have multiple load cases. This allows a model to be analyzed with multiple loads while solving the equations a single time. The following is a list of load case multipliers that were analyzed with this model.

Load Case	Description	Pressure/Surface Forces	Gravity/Acceleration	Angular Velocity (Omega)	Angular Acceleration (Alpha)	Displacement	Thermal	Electrical
1	<no description>	1	0	0	0	0	0	0

Centrifugal Information

Angular Velocity (Omega) Magnitude = 0 (RPM)

	x	y	z
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Rotation Center Point (mm)	0	0	0
Rotation Axis	0	0	0

Angular Acceleration (Alpha) Magnitude = 0 (RPM/s)

	X	Y	Z
Rotation Center Point (mm)	0	0	0
Rotation Axis	0	0	0

Multiphysics Information

Default Nodal Temperature	0 °C
Source of Initial Nodal Temperatures	Loads from FEA Editor
Time step from Heat Transfer Analysis	Last
Default nodal voltage	0 V
Source of nodal voltages	Model file

Processor Information

Type of Solver	Automatic
Disable Calculation and Output of Strains	No
Calculate Reaction Forces	Yes
Invoke Banded Solver	Yes
Avoid Bandwidth Minimization	No
Stop After Stiffness Calculations	No
Displacement Data in Output File	No
Stress Data in Output File	No
Equation Numbers Data in Output File	No
Element Input Data in Output File	No
Nodal Input Data in Output File	No
Centrifugal Load Data in Output File	No

Part Information

Part ID	Part Name	Element Type	Material Name
1	domecek_stred_silnejsi_novy: T\X2\011B\X0\leso1	Brick	[Customer Defined] (Part1)

Element Information

Element Properties used for:

- domecek_stred_silnejsi_novy: T\X2\011B\X0\leso1

Element Type	Brick
Compatibility	Not Enforced
Integration Order	2nd Order

Stress Free Reference Temperature	20 °C
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Material Information

[Customer Defined] (Part1) -Brick

Material Model	Standard
Material Source	Not Applicable
Material Source File	
Date Last Updated	2014/05/29-14: 15: 43
Material Description	From Library "Autodesk Simulation Material Library" Material "Steel " Modified
Mass Density	7 N·s ² /mm ³
Modulus of Elasticity	210000 N/mm ²
Poisson's Ratio	.29
Thermal Coefficient of Expansion	1 1/°C
Yield Strength	470 N/mm ²
Ultimate Strength	870 N/mm ²

Loads

FEA Object Group 4: Surface Forces

Surface Force

ID	Description	Part Number	Surface Number	Magnitude (N)	Vx	Vy	Vz
3	Unnamed	1	54	-4000,000000	1,000000	0,000000	0,000000

FEA Object Group 7: Surface Forces

Surface Force

ID	Description	Part Number	Surface Number	Magnitude (N)	Vx	Vy	Vz
4	Unnamed	1	4	-11111,000000	0,000000	1,000000	0,000000
5	Unnamed	1	1	-11111,000000	0,000000	1,000000	0,000000

Constraints

FEA Object Group 1: Surface Boundary Conditions

Surface General Constraint

ID	Description	Part Number	Surface Number	Tx	Ty	Tz	Rx	Ry	Rz
1	Unnamed	1	88	Yes	Yes	Yes	Yes	Yes	Yes
2	Unnamed	1	3	Yes	Yes	Yes	Yes	Yes	Yes

FEA Object Group 2: Surface Boundary Conditions

Surface General Constraint

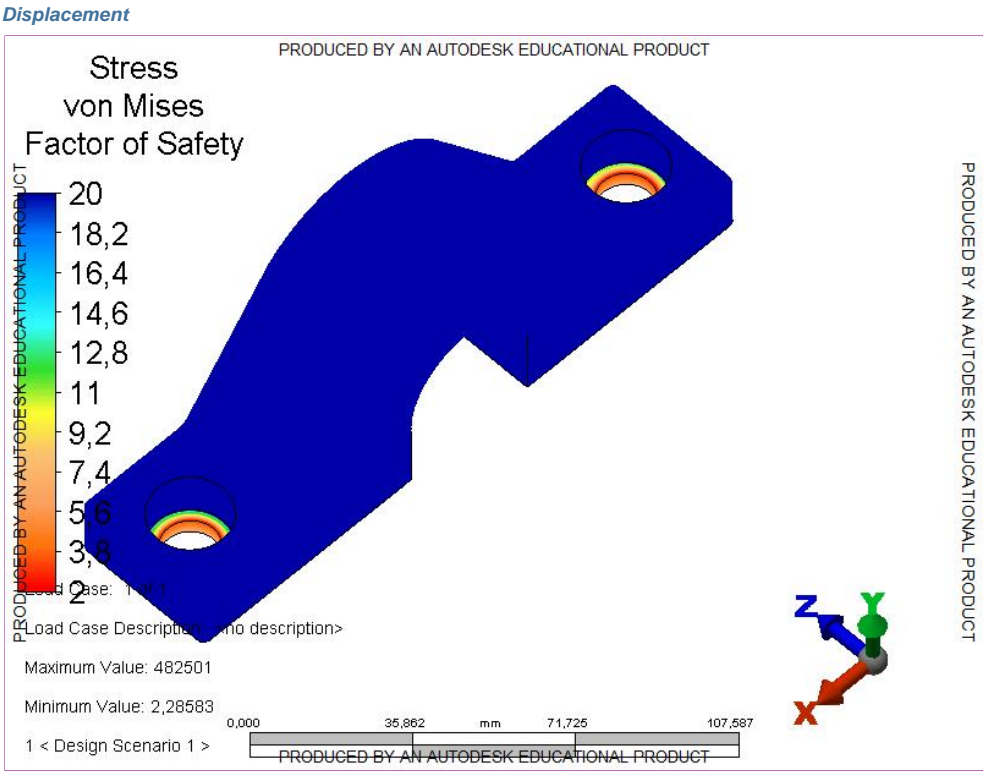
ID	Description	Part Number	Surface Number	Tx	Ty	Tz	Rx	Ry	Rz
3	Unnamed	1	90	Yes	Yes	Yes	Yes	Yes	Yes
4	Unnamed	1	6	Yes	Yes	Yes	Yes	Yes	Yes

FEA Object Group 5: Surface General Constraints

Surface General Constraint

ID	Description	Part Number	Surface Number	Tx	Ty	Tz	Rx	Ry	Rz
5	Unnamed	1	37	No	No	No	No	Yes	No
6	Unnamed	1	57	No	No	No	No	Yes	No

Results Presentation Images



Processor Log Files

Meshing Log

Part 1 < domecek_stred_silnejši_novy: T:\X2\011B\X0\leso1 >

Status: the part successfully meshed.

Surface Mesh Statistics

Mesh operation	Solid mesh
Final mesh size	0,999914 mm
Elements created	36238

Solid Mesh Statistics

Mesh type	Mix of bricks, wedges, pyramids and tetrahedra
Watertight	Yes
Mesh has microholes	No
Total nodes	233101
Volume	160554,695182 mm³
Total elements	274616

	Tetrahedra	Pyramids	Wedges	Bricks
Elements	55073	30114	9068	180361
Volume %	1,35	1,97	1,55	95,12
Max. length ratio	559,5	76,3	9	6,7
Avg. length ratio	5,5	3,6	2,1	1,3
Avg. aspect ratio	1,3	1,3	1,1	1
Unconstrained aspect ratio	5,2	5,7	1,7	1,2

Log file

Length units used in the log file are modeling units: mm

SOLID MESH GENERATION BEFORE ANALYSIS

PROGRAM WILL USE THE FOLLOWING FILES:

Input: C:\School\Diplomka\inventor\domecek_stred_silnejši_novy.FEM

Output: C:\School\Diplomka\inventor\domecek_stred_silnejši_novy.FEM

COMMAND LINE:

C:\Program Files\Autodesk\Simulation 2014\SOLIDX.exe -b=0 -o=1 -zw=2 C:\School\Diplomka\inventor\domecek_stred_silnejsi_novy -ds=1 -d=0 -u=13 -c=2 -t=1 -progress_pipe=4 -cancel_pipe=5 -za=-1 -zg=1 -m=1 -Td=1 -Tl=0.999914 -Tg=1.2 -Tq=100

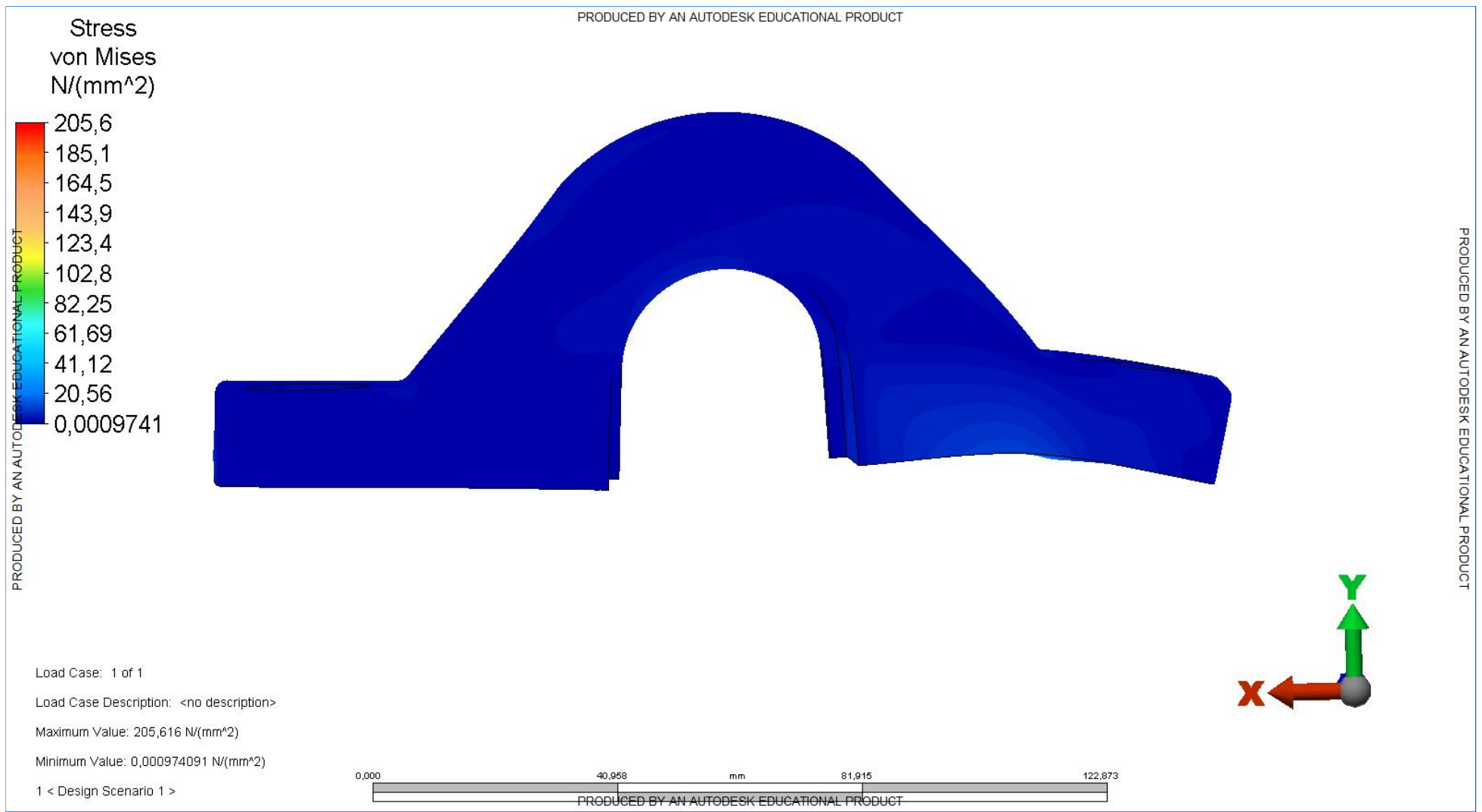
TYPE OF OPERATION:

- Meshing only surface defined by part 1
- Generating bricks, wedges, pyramids and tetrahedra elements
- Automatically minimizing aspect ratio of solid elements

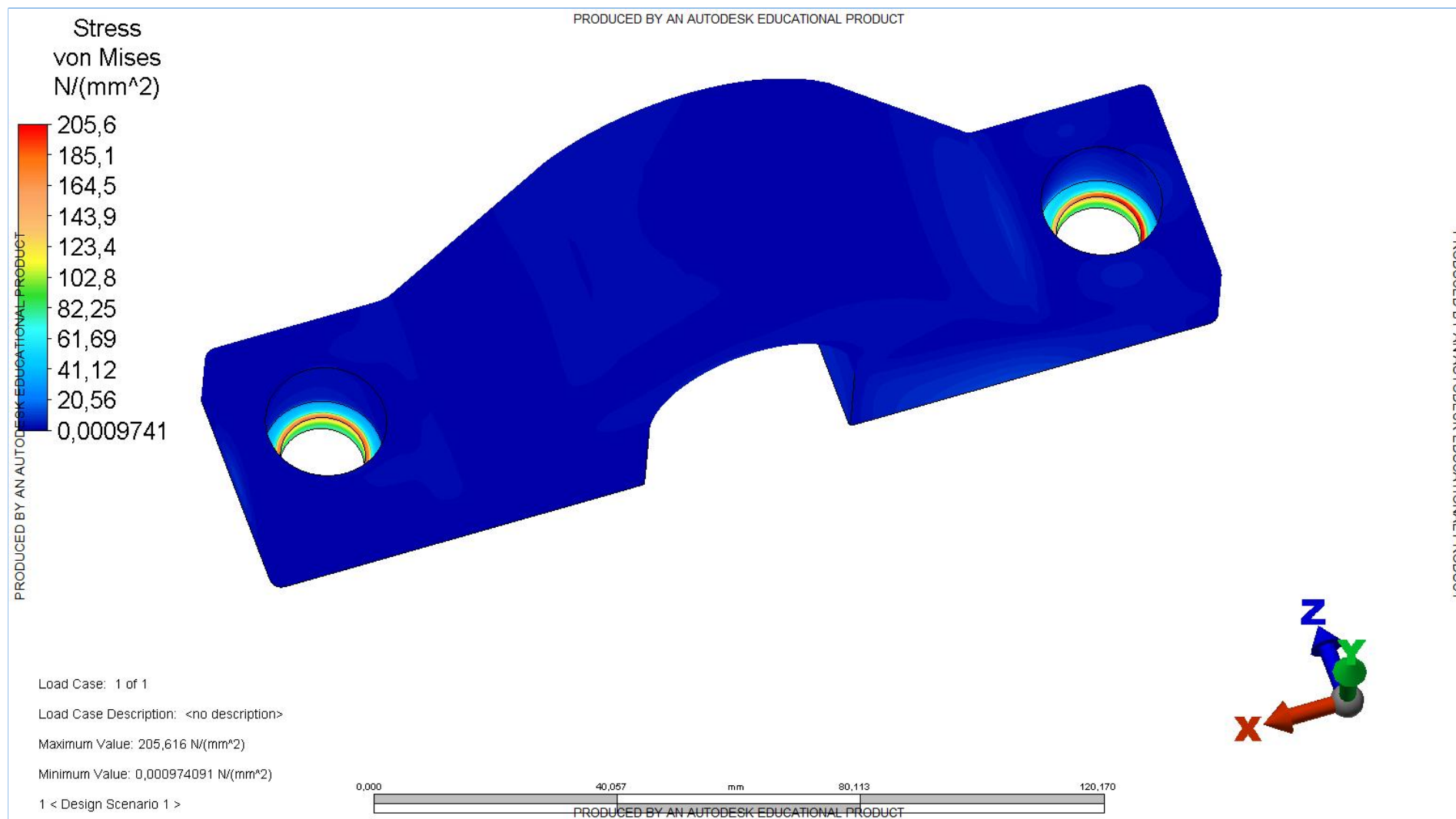
FINAL STATISTICS:

Elements built (4,5,6,8 noded): 274616 (55073, 30114, 9068, 180361)
Volume (4,5,6,8 noded %): 160554.695182 (1.35, 1.97, 1.55, 95.12)
Number of nodes: 233101
Length ratios (avg) 5.5, 3.6, 2.1, 1.3
Length ratios (max) 559.5, 76.3, 9.0, 6.7
Aspect ratio: unconstrained (5.2, 5.7, 1.7, 1.2)
Average aspect ratios: (1.3, 1.3, 1.1, 1.0)
Number of restarts: 0
Elapsed time: 11 minutes 34 seconds

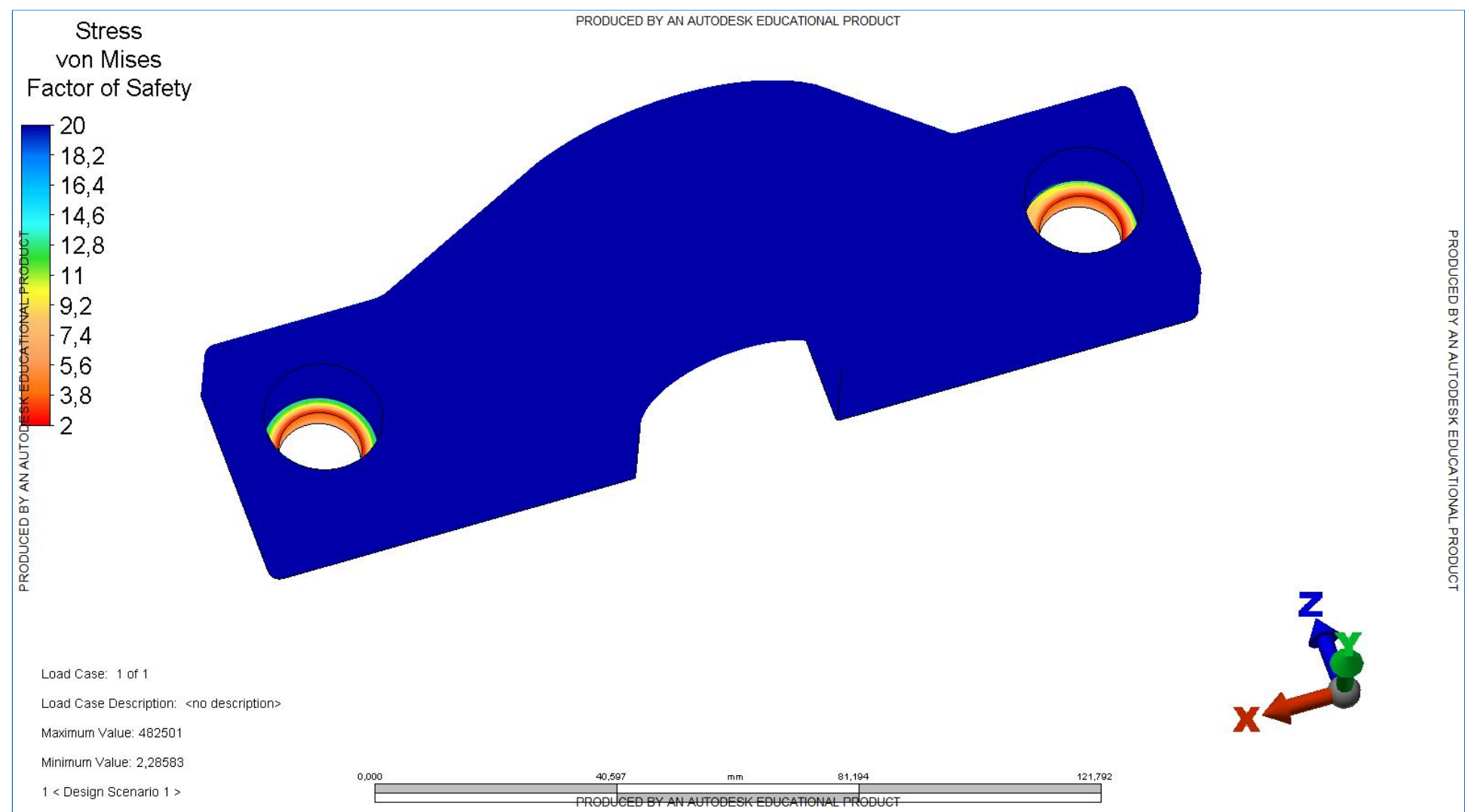
domecek1



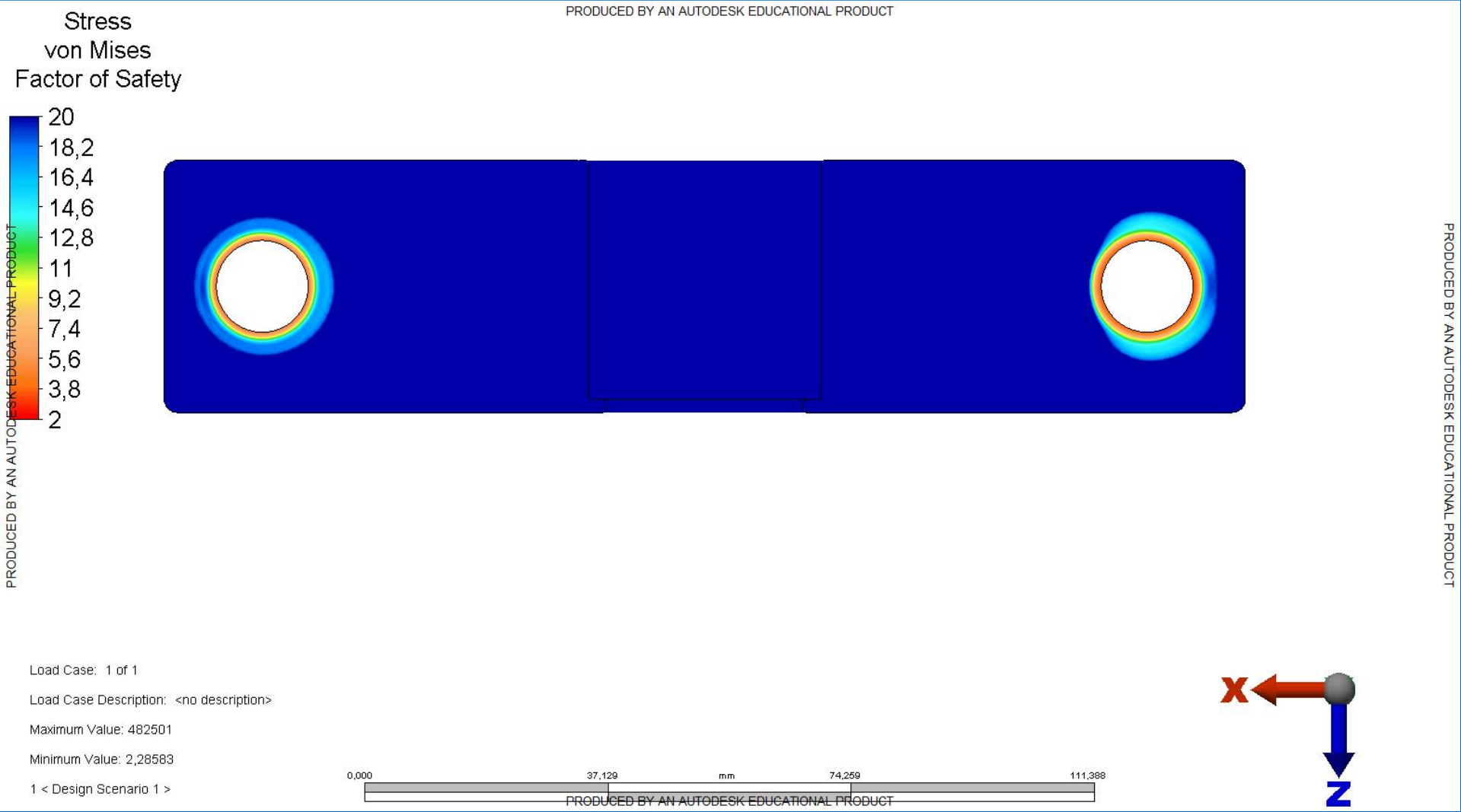
domecek2



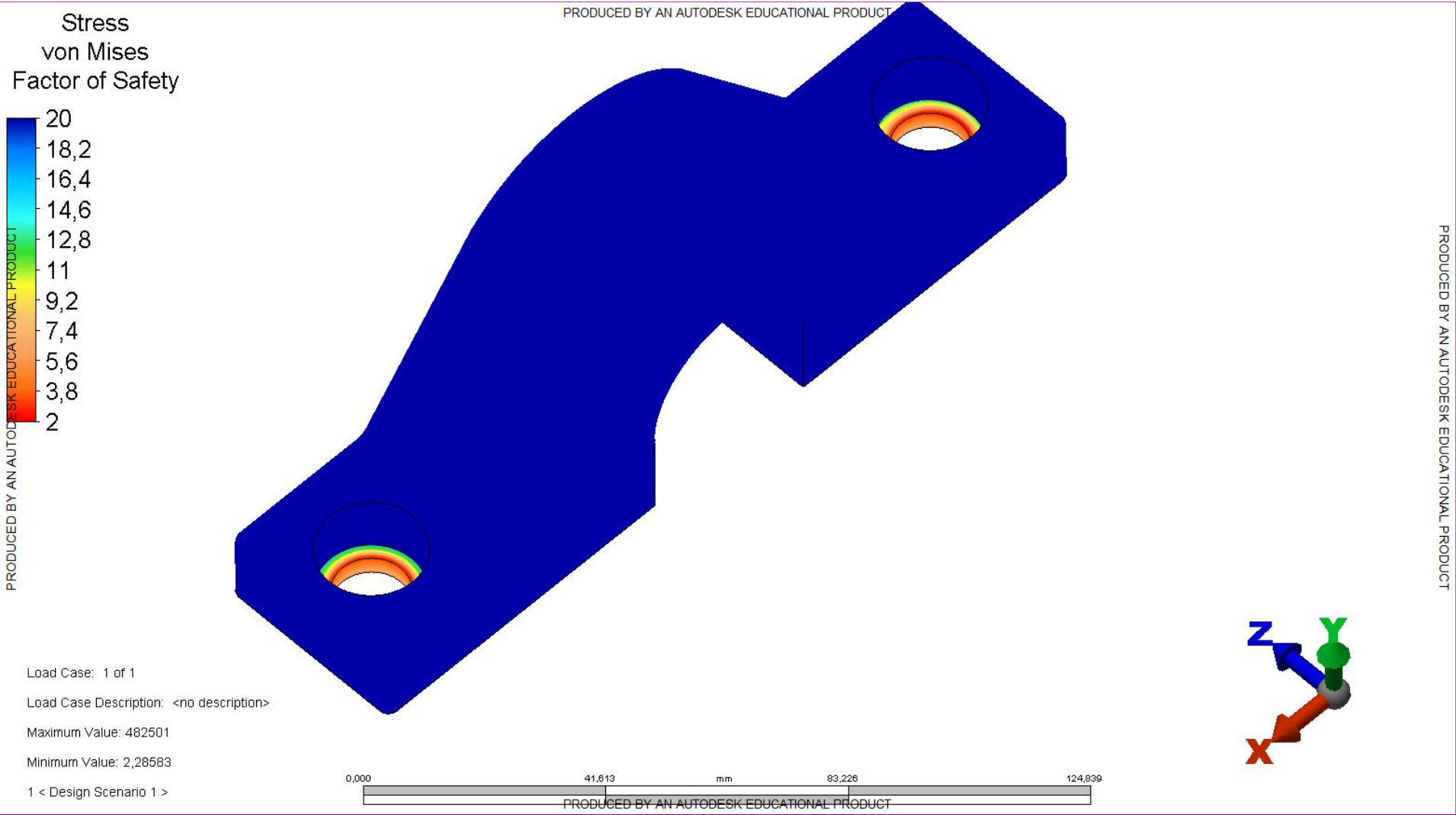
domecek3



domecek4



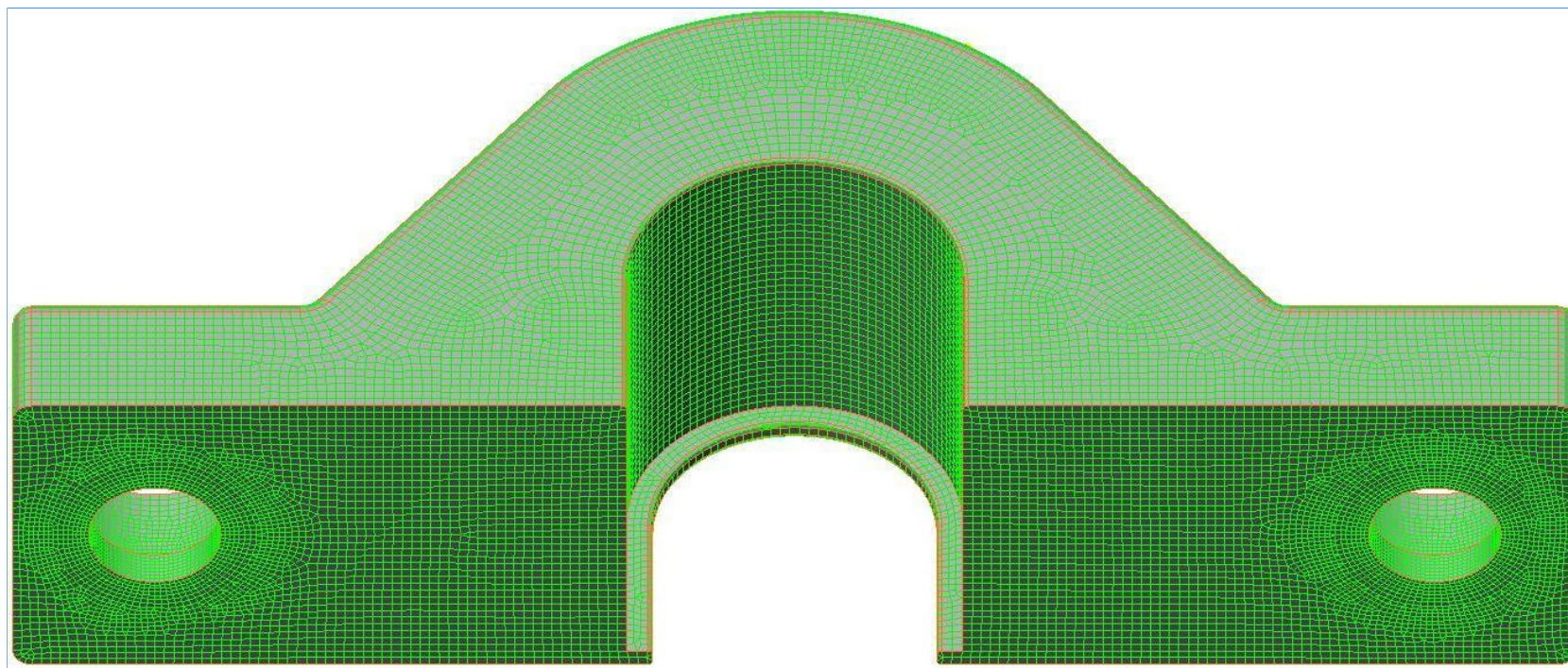
domecek5

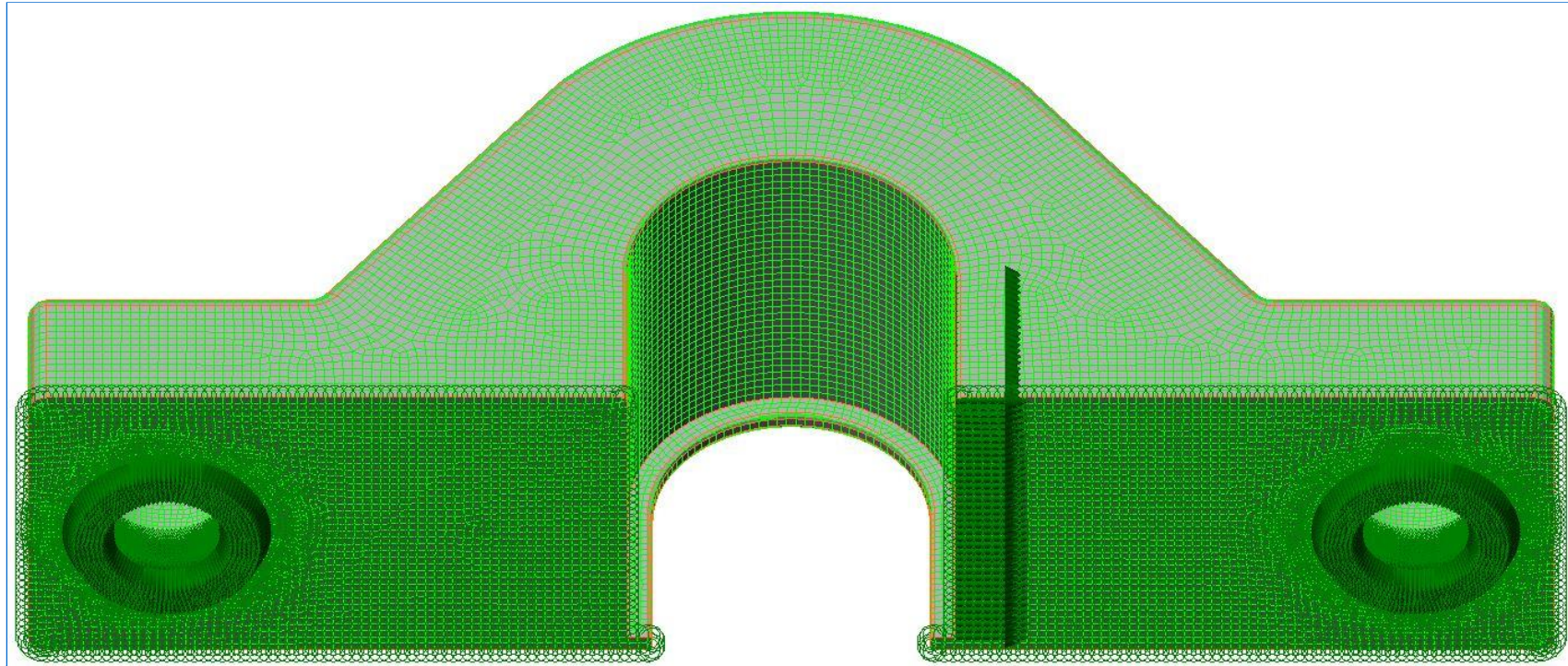


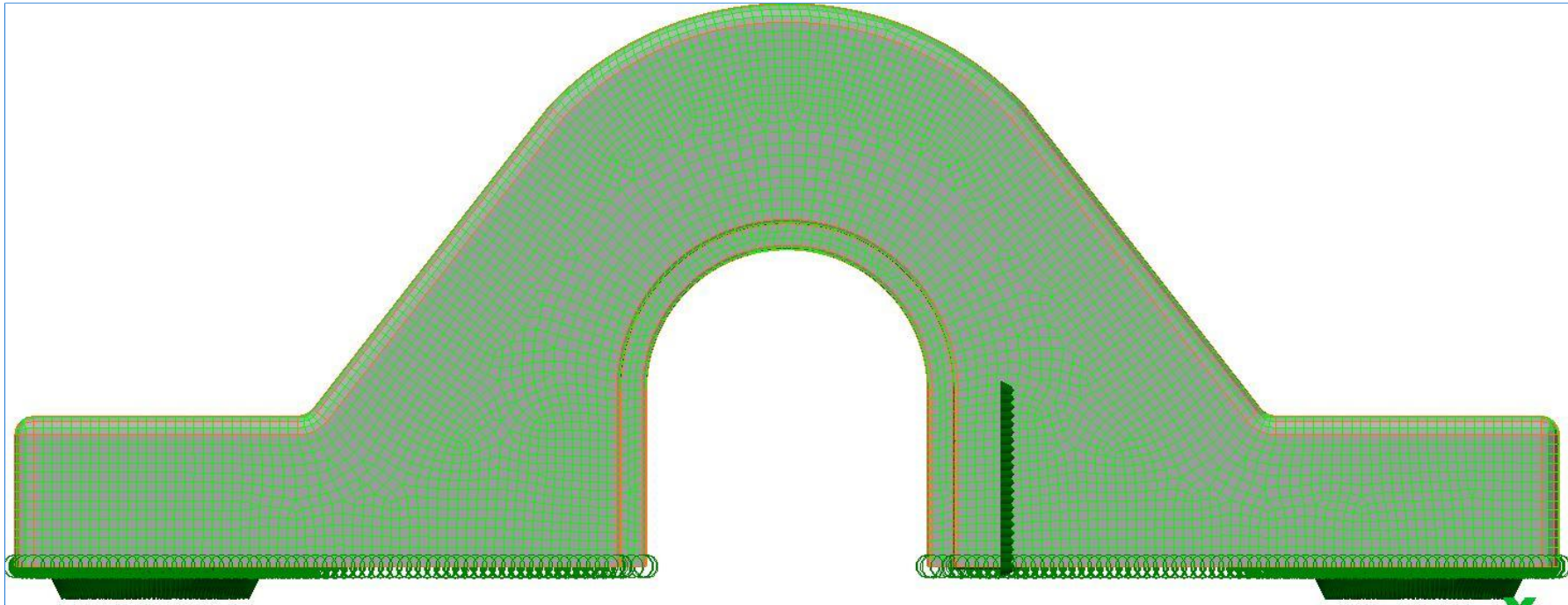
domecek26.5.

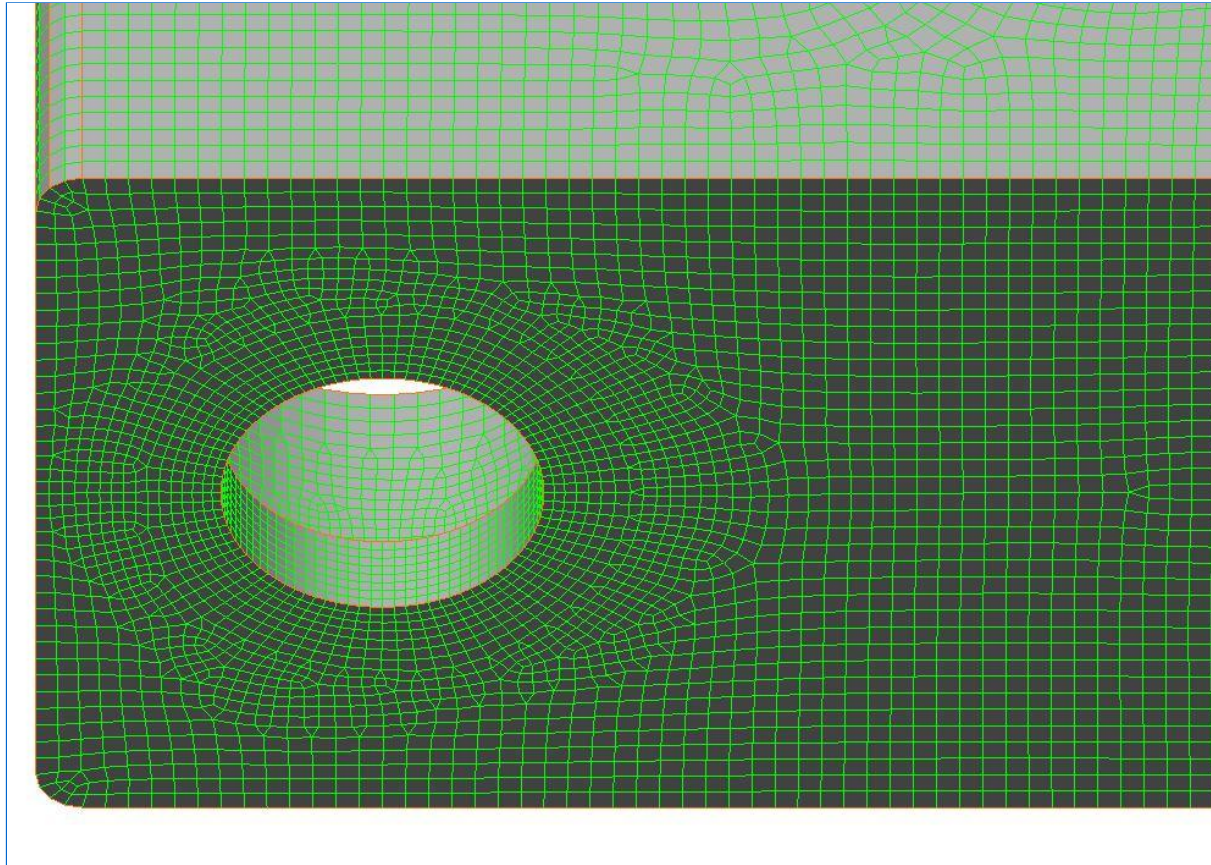
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