

Design Analysis Stabilizator

Created by

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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.

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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
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	stabilizátor_s_ohyby: TVX2\011B\X0\leso1	Brick	Steel - User Defined
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Element Information

Element Properties used for:

- stabilizátor_s_ohyby: TVX2\011B\X0\leso1

Element Type	Brick
Compatibility	Enforced
Integration Order	3rd Order
Stress Free Reference Temperature	20 °C

Material Information

Steel -Brick

Material Model	Standard
Material Source	Autodesk Simulation Material Library
Material Source File	C:\Program Files\Autodesk\Algor Simulation 2012\matlibs\alformat.mlb
Date Last Updated	2004/09/30-16:00:00
Material Description	None
Mass Density	7 N·s²/mm/mm³
Modulus of Elasticity	210000 N/mm²
Poisson's Ratio	.29
Thermal Coefficient of Expansion	1 1/°C
Yield Strength	880 N/mm²
Ultimate Strength	1030 N/mm²

Loads

FEA Object Group 5: Surface Forces

Surface Force

ID	Description	Part Number	Surface Number	Magnitude (N)	Vx	Vy	Vz
1	Unnamed	1	2	-500,000000	0,000000	1,000000	0,000000
2	Unnamed	1	35	-500,000000	0,000000	1,000000	0,000000

Constraints

FEA Object Group 1: Surface Pin Constraints

Surface Pin Constraint

ID	Description	Part Number	Surface Number	Radial	Axial	Tangential
1	Unnamed	1	16	Yes	No	No
2	Unnamed	1	47	Yes	No	No

FEA Object Group 2: Surface Pin Constraints

Surface Pin Constraint

ID	Description	Part Number	Surface Number	Radial	Axial	Tangential
3	Unnamed	1	24	Yes	No	No
4	Unnamed	1	55	Yes	No	No

FEA Object Group 3: Surface Boundary Conditions

Surface General Constraint

ID	Description	Part Number	Surface Number	Tx	Ty	Tz	Rx	Ry	Rz
1	Unnamed	1	5	Yes	Yes	Yes	Yes	Yes	Yes
2	Unnamed	1	37	Yes	Yes	Yes	Yes	Yes	Yes

Results Presentation Images

No Results Images available.

Processor Log Files

Meshing Log

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

Status: the part successfully meshed.

Surface Mesh Statistics

Mesh operation	Solid mesh
Final mesh size	13,6779 mm
Elements created	3216

Solid Mesh Statistics

Mesh type	Mix of bricks, wedges, pyramids and tetrahedra
Watertight	Yes
Mesh has microholes	No

Total nodes	6982			
Volume	510804,690999 mm³			
Total elements	15981			

	Tetrahedra	Pyramids	Wedges	Bricks
Elements	10728	3312	734	1207
Volume %	31,04	20,56	10,14	38,29
Max. length ratio	210	69,8	12,2	4,8
Avg. length ratio	7,1	4,1	2,3	1,8
Avg. aspect ratio	1,3	1,3	1,1	1
Unconstrained aspect ratio	4,1	3,5	1,5	1,2

Log file

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

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SOLID MESH GENERATION BEFORE ANALYSIS

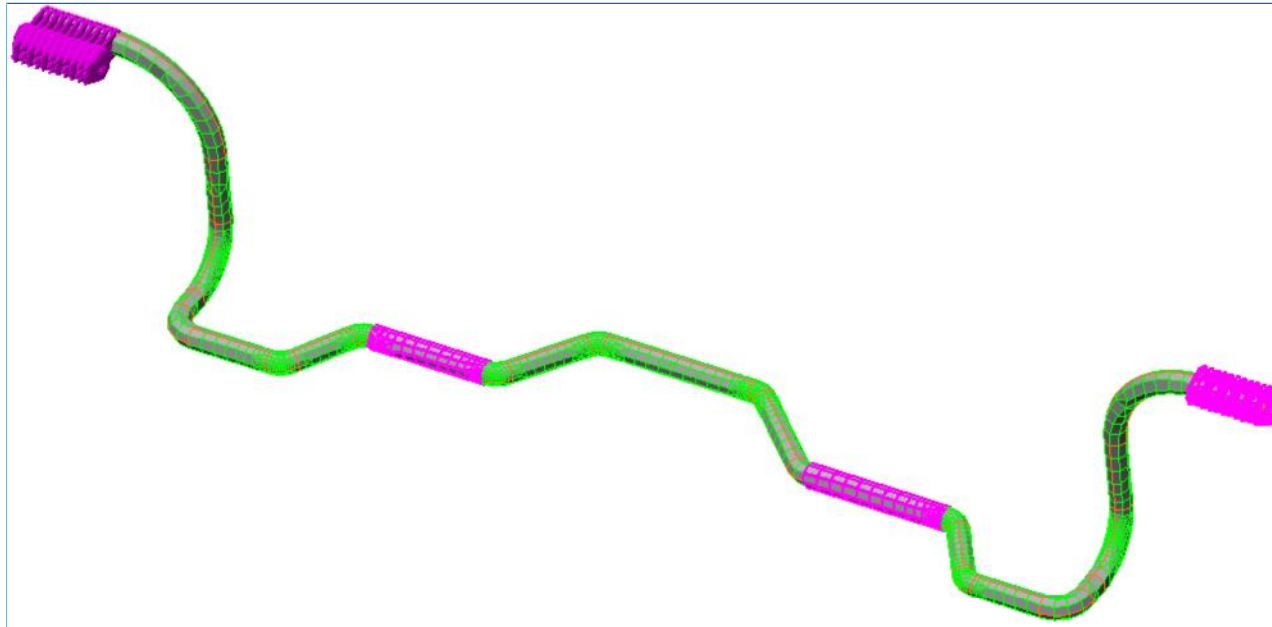
PROGRAM WILL USE THE FOLLOWING FILES:
  Input:  C:\School\Diplomka\inventor\stabilizátor_s_ohyby.FEM
  Output: C:\School\Diplomka\inventor\stabilizátor_s_ohyby.FEM

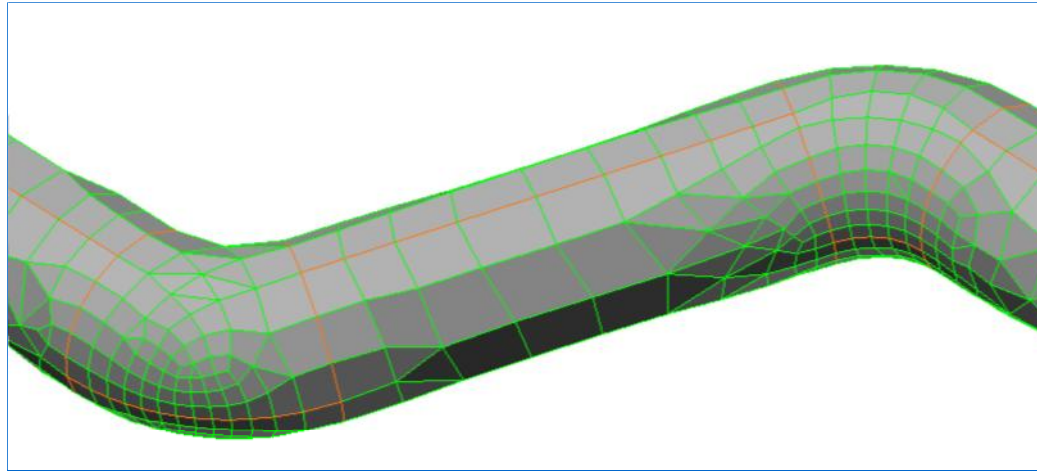
COMMAND LINE:
  C:\Program Files\Autodesk\Algor Simulation 2012\SOLIDX.exe -b=0 -o=1 -zw=2 C:\School\Diplomka\inventor\stabilizátor_s_ohyby -ds=1 -d=0 -u=13 -c=2 -t=1 -progress_pipe=4 -cancel_pipe=5 -za=-1 -zg=1 -m=1 -Td=1 -Tl=13.6779 -Tg=1.2 -Tq=100

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): 15981 ( 10728, 3312, 734, 1207 )
  Volume (4,5,6,8 noded %): 510804.690999 ( 31.04, 20.56, 10.14, 38.29 )
  Number of nodes: 6982
  Length ratios (avg)      7.1,      4.1,      2.3,      1.8
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Length ratios (max) 210.0, 69.8, 12.2, 4.8
Aspect ratio: unconstrained (4.1, 3.5, 1.5, 1.2)
Average aspect ratios: (1.3, 1.3, 1.1, 1.0)
Number of restarts: 0
Elapsed time: 0 minutes 32 seconds

stabilizator_sitovany_fin1**stabilizator_sitovany_fin2**



stabilizator1

