

Study Report



Analyzed File	Lego 18946 v2
Version	Autodesk Fusion 360 (2.0.8609)
Creation Date	2020-07-01, 21:16:24
Author	Grędys Przemysław

Project Properties

Title	Studies
Author	przem

Simulation Model 1:1

Study 1 - Modal Frequencies

Study Properties

Study Type	Modal Frequencies
Last Modification Date	2020-07-01, 19:12:20

Settings

General

Contact Tolerance	0.1 mm
Number of Modes	8
Frequency Range [Hz]	No
Compute Preloaded Modes	No
Enhanced Accuracy	No

Damping

Mesh

Average Element Size (% of model size)	
Solids	8
Scale Mesh Size Per Part	No
Average Element Size (absolute value)	-
Element Order	Parabolic
Create Curved Mesh Elements	Yes
Max. Turn Angle on Curves (Deg.)	60
Max. Adjacent Mesh Size Ratio	1.5
Max. Aspect Ratio	10
Minimum Element Size (% of average size)	20

Adaptive Mesh Refinement

Number of Refinement Steps	0
Results Convergence Tolerance (%)	20
Frequency Mode	1

Materials

Component	Material	Safety Factor
Body1	PC/ABS Plastic	Yield Strength

PC/ABS Plastic

Density	1.1E-06 kg / mm ³
Young's Modulus	2780 MPa
Poisson's Ratio	0.4
Yield Strength	54.4 MPa
Ultimate Tensile Strength	54.4 MPa
Thermal Conductivity	2.4E-04 W / (mm C)
Thermal Expansion Coefficient	6.7E-05 / C
Specific Heat	2133 J / (kg C)

Contacts

Mesh

Type	Nodes	Elements
Solids	294495	184647

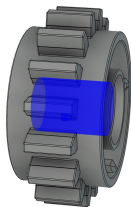
Load Case1

Constraints

Fixed1

Type	Fixed
Ux	Yes
Uy	Yes
Uz	Yes

Selected Entities

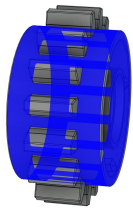


Loads

Moment1

Type	Moment
Magnitude	750 N mm
X Value	594.6 N mm
Y Value	0 N mm
Z Value	-457.1 N mm
X Angle	0 deg
Y Angle	0 deg
Z Angle	0 deg

☐ Selected Entities



☐ **Results**

☐ **Result Summary**

Frequency	Participation X	Participation Y	Participation Z
Mode 1: 10509 Hz	0	0	0
Mode 2: 10676 Hz	0	0	0
Mode 3: 10695 Hz	0	0	0
Mode 4: 10836 Hz	0	0	0
Mode 5: 13565 Hz	0	0	0
Mode 6: 15057 Hz	0	0	0
Mode 7: 20062 Hz	0	0	0
Mode 8: 20068 Hz	0	0	0

☐ **Total Modal Displacement**

☐ **Mode 1: 10509 Hz Total Modal Displacement**

