

Oś_5_NORMAL



Analyzed File	Axis 5 v3
Version	Autodesk Fusion 360 (2.0.8560)
Creation Date	2020-07-01, 20:32:30
Author	user

Project Properties

Title	Studies
Author	Maciej

Simulation Model 1:1

Study 2 - Static Stress

Study Properties

Study Type	Static Stress
Last Modification Date	2020-07-01, 19:34:50

Settings

General

Contact Tolerance	0.1 mm
Remove Rigid Body Modes	No

Damping

Mesh

Average Element Size (% of model size)	
Solids	3
Scale Mesh Size Per Part	Yes
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	6
Results Convergence Tolerance (%)	5
Portion of Elements to Refine (%)	40
Results for Baseline Accuracy	Von Mises Stress

Materials

Component	Material	Safety Factor
LEGO_44294 v2:1	ABS Plastic	Yield Strength
LEGO_3648(gear 24) v2:1	ABS Plastic	Yield Strength
LEGO_(axle triple pin) v2:1	ABS Plastic	Yield Strength
LEGO_(axle triple pin) v2:2	ABS Plastic	Yield Strength
LEGO_4019(gear 16) v2:1	ABS Plastic	Yield Strength

ABS Plastic

Density	1.06E-06 kg / mm ³
Young's Modulus	2240 MPa
Poisson's Ratio	0.38
Yield Strength	20 MPa
Ultimate Tensile Strength	29.6 MPa
Thermal Conductivity	1.6E-04 W / (mm C)
Thermal Expansion Coefficient	8.57E-05 / C
Specific Heat	1500 J / (kg C)

Contacts

Bonded

Name
[S] Bonded1 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded2 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded3 [LEGO_44294 v2:1 LEGO_3648(gear 24) v2:1]
[S] Bonded4 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded5 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:2]
[S] Bonded6 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:1]
[S] Bonded7 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded8 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded9 [LEGO_44294 v2:1 LEGO_3648(gear 24) v2:1]
[S] Bonded10 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded11 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:2]
[S] Bonded12 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:1]
[S] Bonded13 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded14 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded15 [LEGO_44294 v2:1 LEGO_3648(gear 24) v2:1]
[S] Bonded16 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded17 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:2]
[S] Bonded18 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:1]
[S] Bonded19 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded20 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded21 [LEGO_44294 v2:1 LEGO_3648(gear 24) v2:1]
[S] Bonded22 [LEGO_44294 v2:1 LEGO_4019(gear 16) v2:1]
[S] Bonded23 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:2]
[S] Bonded24 [LEGO_44294 v2:1 LEGO_(axle triple pin) v2:1]

Mesh

Type	Nodes	Elements
Solids	908679	587206

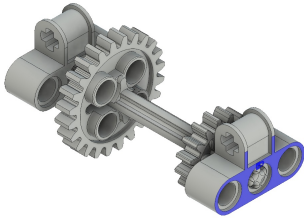
Load Case1

Constraints

Fixed1

Type	Fixed
Ux	Yes
Uy	Yes
Uz	Yes

Selected Entities



Fixed2

Type	Fixed
Ux	Yes
Uy	Yes
Uz	Yes

Selected Entities