Project*

First Saved	Friday, April 12, 2024
Last Saved	Wednesday, April 17, 2024
Product Version	2024 R1
Save Project Before Solution	No
Save Project After Solution	No

Contents

Units

TABLE 1

Unit System	Metric (mm, kg, N, s, mV, mA) Degrees rad/s Celsius
Angle	Degrees
Rotational Velocity	rad/s
Temperature	Celsius

Model (A4)

TABLE 2
Model (A4) > Geometry Imports

Object Name	*Geometry Imports*
State	Solved

TABLE 3
Model (A4) > Geometry Imports > Geometry Import (A3)

Object Name	*Geometry Import (A3)*
State	Solved

Definition	
Source	C:\Users\digvi\OneDrive\Desktop\planer1.igs
Type	Iges
Basic Geometry Options	
Solid Bodies	Yes
Surface Bodies	Yes
Line Bodies	No
Parameters	Independent
Parameter Key	ANS;DS
Attributes	No
Named Selections	No
Material Properties	No
Advanced Geometry Options	
Use Associativity	Yes
Coordinate Systems	No
Reader Mode Saves Updated File	No
Use Instances	Yes
Smart CAD Update	Yes
Compare Parts On Update	No
Analysis Type	3-D
Mixed Import Resolution	None
Import Facet Quality	Source
Clean Bodies On Import	No
Stitch Surfaces On Import	Program Tolerance
Stitch Tolerance	0.0000001
Decompose Disjoint Geometry	Yes
Enclosure and Symmetry Processing	Yes

Geometry

TABLE 4
Model (A4) > Geometry

Object Name	*Geometry*
State	Fully Defined
Definition	
Source	C:\Users\digvi\OneDrive\Desktop\planer1.igs
Type	Iges
Length Unit	Millimeters
Display Style	Body Color
Bounding Box	
Length X	230.02 mm
Length Y	179.02 mm
Length Z	100.02 mm
Properties	
Volume	1.2791e+006 mm³
Mass	3.6088 kg
Scale Factor Value	1.
Statistics	
Bodies	2
Active Bodies	2
Nodes	88903
Elements	81984

Mesh Metric	None
Update Options	
Assign Default Material	No
Basic Geometry Options	
Solid Bodies	Yes
Surface Bodies	Yes
Line Bodies	No
Parameters	Independent
Parameter Key	ANS;DS
Attributes	No
Named Selections	No
Material Properties	No
Advanced Geometry Options	
Use Associativity	Yes
Coordinate Systems	No
Reader Mode Saves Updated File	No
Use Instances	Yes
Smart CAD Update	Yes
Compare Parts On Update	No
Analysis Type	3-D
Mixed Import Resolution	None
Import Facet Quality	Source
Clean Bodies On Import	No
Stitch Surfaces On Import	Program Tolerance
Decompose Disjoint Geometry	Yes
Enclosure and Symmetry Processing	Yes

TABLE 5
Model (A4) > Geometry > Parts

Object Name	planer1-FreeParts	planer1-FreeParts[2]
State	Meshed	
Graphics Properties		
Visible	Yes	
Transparency	1	
Definition		
Suppressed	No	
Stiffness Behavior	Flexible	
Coordinate System	Default Coordinate System	
Reference Temperature	By Environment	
Reference Frame	Lagrangian	
Material		
Assignment	AL 6061-T6	Titanium Alloy
Bounding Box		
Length X	150.02 mm	70.02 mm
Length Y	80.02 mm	100.02 mm
Length Z	100.02 mm	30.02 mm
Properties		
Volume	1.2e+006 mm³	79056 mm³
Mass	3.2436 kg	0.36524 kg
Centroid X	155. mm	20.226 mm
Centroid Y	-39. mm	29.933 mm
Centroid Z	50. mm	15. mm

Moment of Inertia Ip1	4432.9 kg·mm²	290.21 kg·mm²
Moment of Inertia Ip2	8784.7 kg·mm²	81.287 kg·mm²
Moment of Inertia Ip3	7811.7 kg·mm²	316.72 kg·mm²
Statistics		
Nodes	82533	6370
Elements	76800	5184
Mesh Metric	None	

TABLE 6
Model (A4) > Materials

Object Name	*Materials*
State	Fully Defined
Statistics	
Materials	4
Material Assignments	0

Coordinate Systems

TABLE 7
Model (A4) > Coordinate Systems > Coordinate System

Object Name	*Global Coordinate System*	*Coordinate System*	*Coordinate System 2*
State	Fully Defined		
Definition			
Type	Cartesian		
Suppressed		No	
Origin			
Origin X	0. mm	20.226 mm	155. mm
Origin Y	0. mm	29.933 mm	-39. mm
Origin Z	0. mm	15. mm	50. mm
Define By		Geometry Selection	
Geometry		Defined	
Directional Vectors			
X Axis Data	[1. 0. 0.]		[-1. 0. 0.]
Y Axis Data	[0. 1. 0.]		
Z Axis Data	[0. 0. 1.]		[0. 0. -1.]
Transfer Properties			
Source			
Read Only		No	
Principal Axis			
Axis		X	
Define By		Global X Axis	
Orientation About Principal Axis			
Axis		Y	
Define By		Default	
Transformations			
Base Configuration		Absolute	
Transformed Configuration		[20.226 29.933 15.]	[155. -39. 50.]

Connections

TABLE 8
Model (A4) > Connections

Object Name	*Connections*
State	Fully Defined
Auto Detection	
Generate Automatic Connection On Refresh	Yes
Transparency	
Enabled	Yes
Statistics	
Contacts	1
Active Contacts	1
Joints	0
Active Joints	0
Beams	0
Active Beams	0
Bearings	0
Active Bearings	0
Springs	0
Active Springs	0
Body Interactions	1
Active Body Interactions	1

TABLE 9
Model (A4) > Connections > Contacts 2

Object Name	*Contacts 2*
State	Fully Defined
Definition	
Connection Type	Contact
Scope	
Scoping Method	Geometry Selection
Geometry	All Bodies
Auto Detection	
Tolerance Type	Slider
Tolerance Slider	0.
Tolerance Value	0.7704 mm
Use Range	No
Face/Face	Yes
Face-Face Angle Tolerance	75. °
Face Overlap Tolerance	Off
Cylindrical Faces	Include
Face/Edge	No
Edge/Edge	No
Priority	Include All
Group By	Bodies
Search Across	Bodies
Statistics	
Connections	1
Active Connections	1

TABLE 10
Model (A4) > Connections > Contacts 2 > Contact Regions

Object Name	*Frictional - planer1-FreeParts To planer1-FreeParts[2]*
State	Fully Defined
Scope	
Scoping Method	Geometry Selection

Contact	3 Faces
Target	5 Faces
Contact Bodies	planer1-FreeParts
Target Bodies	planer1-FreeParts[2]
Protected	No
Definition	
Type	Frictional
Friction Coefficient	0.3
Dynamic Coefficient	0.
Decay Constant	0.
Scope Mode	Manual
Behavior	Program Controlled
Trim Contact	Program Controlled
Suppressed	No

TABLE 11
Model (A4) > Connections > Body Interactions

Object Name	Body Interactions
State	Fully Defined
Advanced	
Contact Detection	Trajectory
Formulation	Penalty
Sliding Contact	Discrete Surface
Body Self Contact	Program Controlled
Element Self Contact	Program Controlled
Tolerance	0.2

TABLE 12
Model (A4) > Connections > Body Interactions > Body Interaction

Object Name	Body Interaction
State	Fully Defined
Scope	
Scoping Method	Geometry Selection
Geometry	All Bodies
Definition	
Type	Frictional
Friction Coefficient	0.3
Dynamic Coefficient	0.
Decay Constant	0.
Suppressed	No

Mesh

TABLE 13
Model (A4) > Mesh

Object Name	Mesh
State	Solved
Display	
Display Style	Use Geometry Setting
Defaults	
Physics Preference	Explicit
Element Order	Linear

Element Size	2.5 mm
Sizing	
Use Adaptive Sizing	No
Growth Rate	Default (1.5)
Max Size	Default (2.5 mm)
Mesh Defeaturing	Yes
Defeature Size	Default (0.25 mm)
Capture Curvature	Yes
Curvature Min Size	Default (1.25 mm)
Curvature Normal Angle	Default (72.0°)
Capture Proximity	No
Bounding Box Diagonal	308.16 mm
Average Surface Area	6482.6 mm²
Minimum Edge Length	6.0 mm
Quality	
Check Mesh Quality	Mesh Quality Worksheet
Target Element Quality	Default (0.2)
Target Characteristic Length (LS-DYNA)	Default (0.25 mm)
Target Aspect Ratio (Explicit)	Default (5.0)
Smoothing	High
Mesh Metric	None
Inflation	
Use Automatic Inflation	None
Inflation Option	Smooth Transition
Transition Ratio	0.272
Maximum Layers	1
Growth Rate	1.2
Inflation Algorithm	Pre
Inflation Element Type	Wedges
View Advanced Options	No
Advanced	
Number of CPUs for Parallel Part Meshing	Program Controlled
Straight Sided Elements	
Rigid Body Behavior	Full Mesh
Triangle Surface Mesher	Program Controlled
Topology Checking	Yes
Pinch Tolerance	Default (1.125 mm)
Generate Pinch on Refresh	No
Statistics	
Nodes	88903
Elements	81984
Show Detailed Statistics	No

TABLE 14
Model (A4) > Mesh > Mesh Controls

Object Name	*Body Sizing*
State	Suppressed
Scope	
Scoping Method	Geometry Selection
Geometry	1 Body
Definition	
Suppressed	Yes

Active	No, Suppressed
Type	Element Size
Element Size	2.0 mm
Advanced	
Defeature Size	Default (0.25 mm)
Growth Rate	Default (1.5)
Capture Curvature	Yes
Curvature Normal Angle	Default (72.0°)
Local Min Size	Default (1.25 mm)
Capture Proximity	No

Explicit Dynamics (A5)

TABLE 15
Model (A4) > Analysis

Object Name	*Explicit Dynamics (A5)*
State	Solved
Definition	
Physics Type	Structural
Analysis Type	Explicit Dynamics
Solver Target	AUTODYN
Options	
Environment Temperature	22. °C
Generate Input Only	No

TABLE 16
Model (A4) > Explicit Dynamics (A5) > Initial Conditions

Object Name	*Initial Conditions*
State	Fully Defined

TABLE 17
Model (A4) > Explicit Dynamics (A5) > Initial Conditions > Initial Condition

Object Name	*Pre-Stress (None)*	*Velocity*
State		Fully Defined
Definition		
Pre-Stress Environment		None Available
Input Type		Velocity
Define By		Components
Coordinate System		Coordinate System
X Component		90000 mm/s
Y Component		0. mm/s
Z Component		0. mm/s
Suppressed		No
Scope		
Scoping Method		Geometry Selection
Geometry		1 Body

TABLE 18
Model (A4) > Explicit Dynamics (A5) > Analysis Settings

Object Name	*Analysis Settings*
State	Fully Defined
Analysis Settings Preference	

Type	Program Controlled
Step Controls	
Number Of Steps	1
Current Step Number	1
Load Step Type	Explicit Time Integration
End Time	1.e-003
Resume From Cycle	0
Maximum Number of Cycles	1e+07
Maximum Energy Error	0.1
Reference Energy Cycle	0
Initial Time Step	Program Controlled
Minimum Time Step	Program Controlled
Maximum Time Step	Program Controlled
Time Step Safety Factor	0.9
Characteristic Dimension	Diagonals
Automatic Mass Scaling	No
Solver Controls	
Solve Units	mm, mg, ms
Beam Solution Type	Bending
Beam Time Step Safety Factor	0.5
Hex Integration Type	Exact
Shell Sublayers	3
Shell Shear Correction Factor	0.8333
Shell BWC Warp Correction	Yes
Shell Thickness Update	Nodal
Tet Integration	Average Nodal Pressure
Shell Inertia Update	Recompute
Density Update	Program Controlled
Minimum Timestep for SPH	1.e-010 s
Minimum Density Factor for SPH	0.2
Maximum Density Factor for SPH	3.
Density Cutoff Option For SPH	Limit Density
Minimum Velocity	1.e-003 mm s^-1
Maximum Velocity	1.e+013 mm s^-1
Radius Cutoff	1.e-003
Minimum Strain Rate Cutoff	1.e-010
Detonation Point Burn Type	Program Controlled
Euler Domain Controls	
Domain Size Definition	Program Controlled
Display Euler Domain	Yes
Scope	All Bodies
X Scale factor	1.2
Y Scale factor	1.2
Z Scale factor	1.2

Domain Resolution Definition	Total Cells
Total Cells	2.5e+05
Lower X Face	Flow Out
Lower Y Face	Flow Out
Lower Z Face	Flow Out
Upper X Face	Flow Out
Upper Y Face	Flow Out
Upper Z Face	Flow Out
Euler Tracking	By Body
Damping Controls	
Linear Artificial Viscosity	0.2
Quadratic Artificial Viscosity	1.
Linear Viscosity in Expansion	No
Artificial Viscosity For Shells	Yes
Linear Artificial Viscosity for SPH	1.
Quadratic Artificial Viscosity for SPH	1.
Hourglass Damping	AUTODYN Standard
Viscous Coefficient	0.1
Static Damping	0.
Erosion Controls	
On Geometric Strain Limit	Yes
Geometric Strain Limit	1.5
On Material Failure	No
On Minimum Element Time Step	No
Retain Inertia of Eroded Material	Yes
Output Controls	
Step-aware Output Controls	No
Save Results on	Equally Spaced Points
Result Number Of Points	20
Save Restart Files on	Equally Spaced Points
Restart Number Of Points	5
Save Result Tracker Data on	Cycles
Tracker Cycles	1
Output Contact Forces	Off
Analysis Data Management	
Solver Files Directory	C:\Users\digvi\OneDrive\Desktop\PROJECT\Velocity\changevelocity_files\dp0\SYS\MECH\
Scratch Solver Files Directory	

TABLE 19
Model (A4) > Explicit Dynamics (A5) > Loads

Object Name	*Displacement*	*Displacement 2*	*Velocity*	*Fixed Support*
State	Suppressed	Fully Defined	Suppressed	Fully Defined

Scope				
Scoping Method	Geometry Selection			
Geometry	6 Faces	7 Faces	1 Body	3 Faces
Definition				
Type	Displacement		Velocity	Fixed Support
Define By	Components			
Coordinate System	Coordinate System 2	Coordinate System		
X Component	0. mm (ramped)	Free	50000 mm/s (step applied)	
Y Component	0. mm (ramped)		Free	
Z Component	0. mm (ramped)		Free	
Suppressed	Yes	No	Yes	No

FIGURE 1
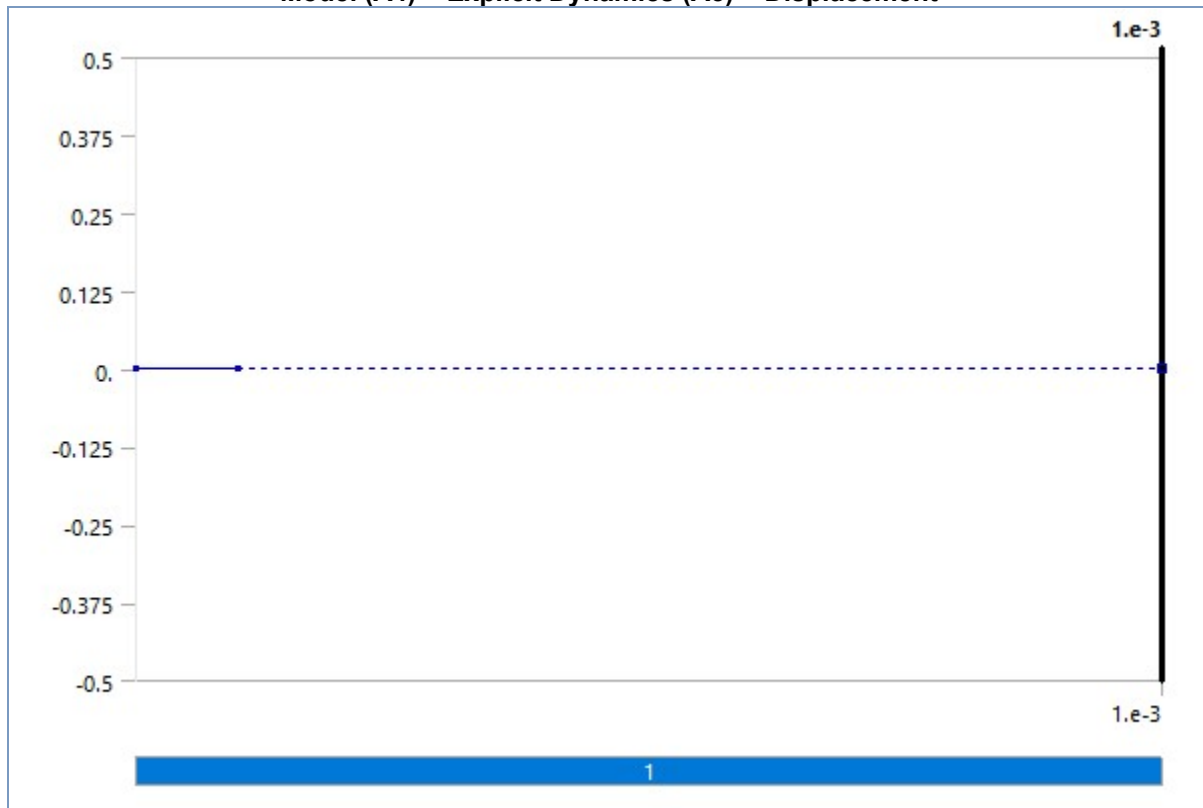**Model (A4) > Explicit Dynamics (A5) > Displacement**

FIGURE 2
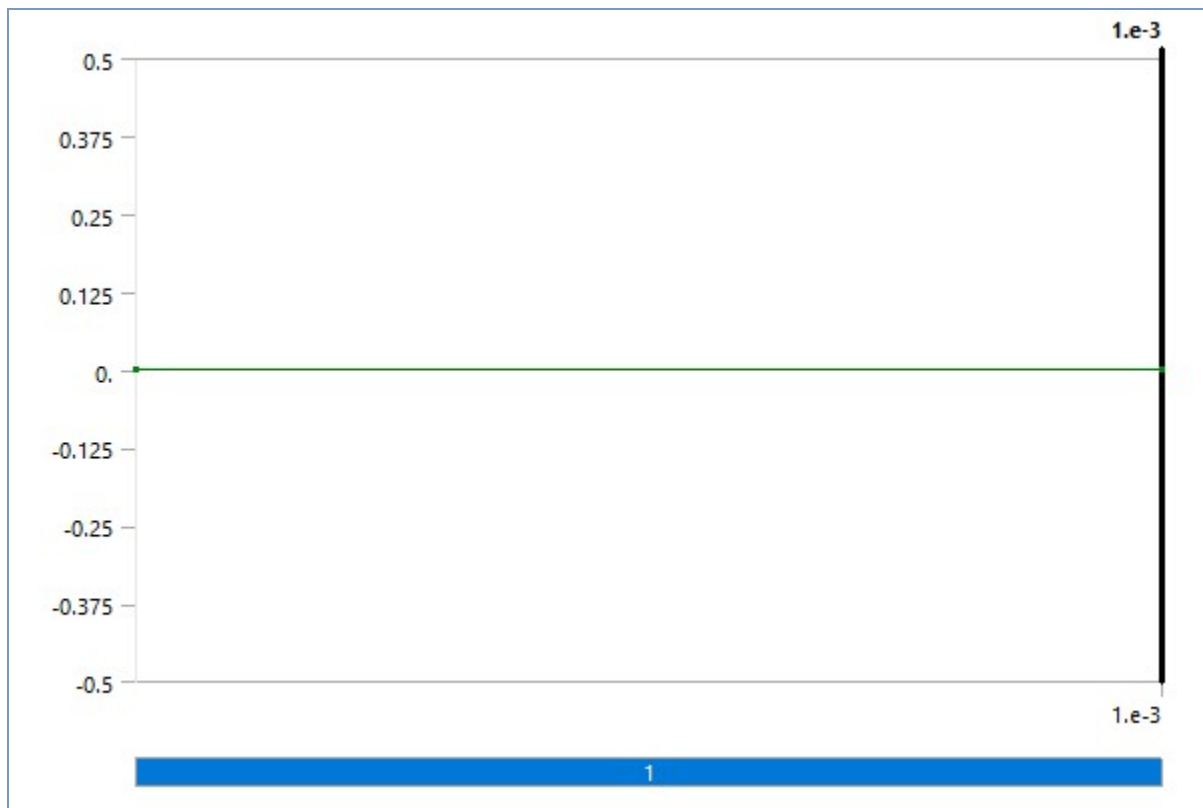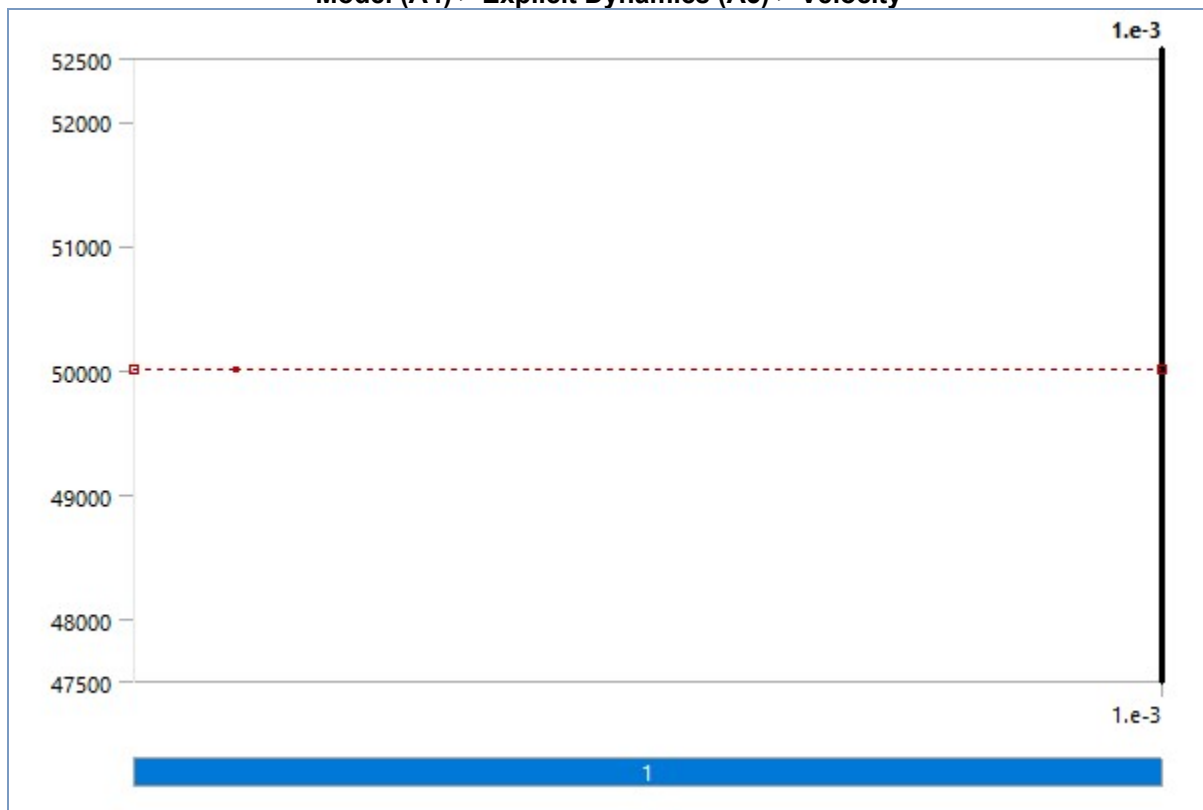**Model (A4) > Explicit Dynamics (A5) > Displacement 2**

FIGURE 3
Model (A4) > Explicit Dynamics (A5) > Velocity

Solution (A6)

TABLE 20
Model (A4) > Explicit Dynamics (A5) > Solution

Object Name	Solution (A6)
State	Solved
Information	
Status	Done

TABLE 21
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Solution Information

Object Name	Solution Information
State	Solved
Solution Information	
Solution Output	Solver Output
Update Interval	2.5 s
Display Points	All
Display Filter During Solve	Yes

TABLE 22
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Results

Object Name	Total Deformation	Equivalent Stress	Total Deformation 2	Equivalent Stress 2	Equivalent Stress 3
State	Solved				
Scope					
Scoping Method	Geometry Selection				
Geometry	All Bodies		1 Body		
Definition					
Type	Total Deformation	Equivalent (von-Mises) Stress	Total Deformation	Equivalent (von-Mises) Stress	
By	Time				
Display Time	Last				
Separate Data by Entity	No				
Calculate Time History	Yes				
Identifier					
Suppressed	No				
Results					
Minimum	0. mm	7.0784e-002 MPa	0. mm	7.0784e-002 MPa	1.9806 MPa
Maximum	104.28 mm	403.6 MPa	104.28 mm	403.6 MPa	204.14 MPa
Average	1.5666 mm	16.784 MPa	3.8362e-002 mm	12.8 MPa	68.362 MPa
Minimum Occurs On	planer1-FreeParts				planer1-FreeParts[2]
Maximum Occurs On	planer1-FreeParts				planer1-FreeParts[2]
Minimum Value Over Time					
Minimum	0. mm	0. MPa	0. mm	0. MPa	
Maximum	0. mm	0.51656 MPa	0. mm	0.51656 MPa	8.7911 MPa
Maximum Value Over Time					
Minimum	0. mm	0. MPa	0. mm	0. MPa	
Maximum	104.28 mm	8430.7 MPa	104.28 mm	433.39 MPa	8430.7 MPa
Information					
Time	1.e-003 s				

Set	21		
Cycle Number	20288		
Integration Point Results			
Display Option	Averaged		Averaged
Average Across Bodies	No		No

FIGURE 4
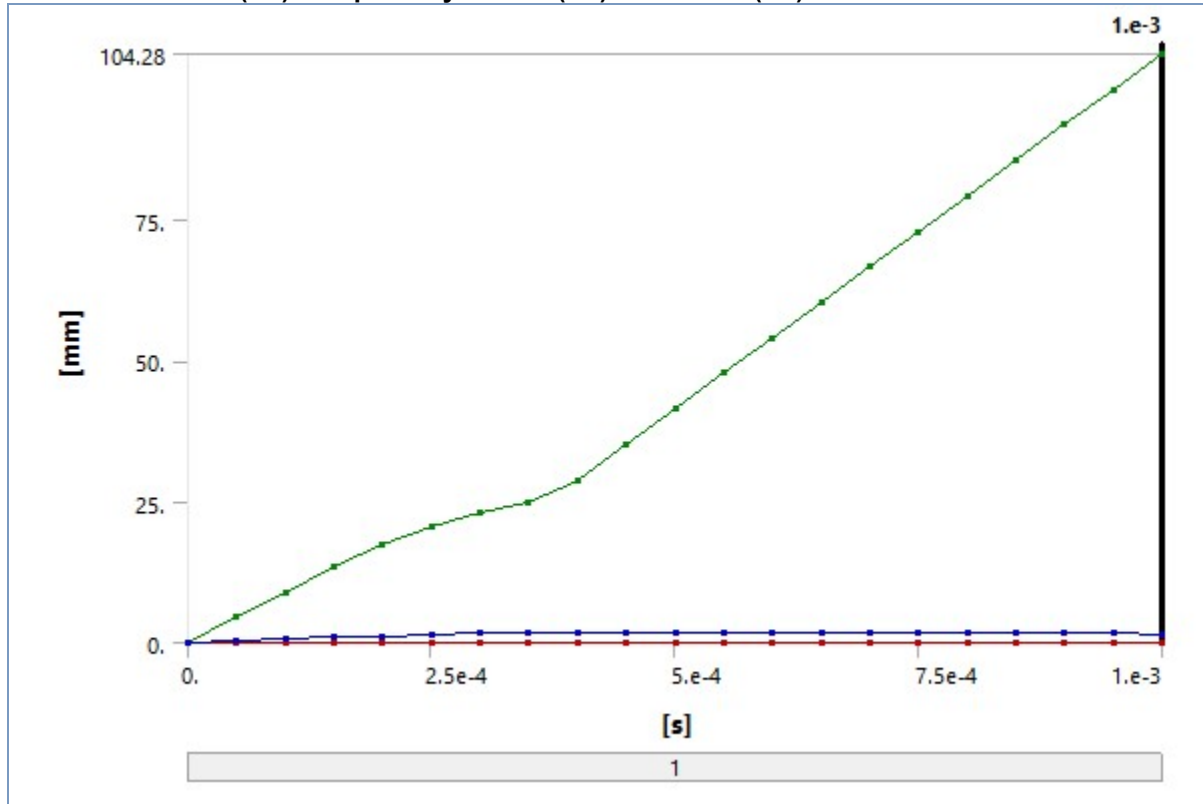**Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Total Deformation**

TABLE 23
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Total Deformation

Time [s]	Minimum [mm]	Maximum [mm]	Average [mm]
1.1755e-038		0.	0.
5.0106e-005		4.5095	0.32311
1.0013e-004		9.0113	0.64567
1.5009e-004		13.527	0.97099
2.0003e-004		17.506	1.2321
2.5e-004		20.729	1.4554
3.0002e-004		23.131	1.6335
3.5e-004		24.921	1.7584
4.0003e-004	0.	28.89	1.8383
4.5002e-004		35.171	1.8824
5.0004e-004		41.456	1.8762
5.5002e-004		47.737	1.8474
6.0001e-004		54.018	1.8142
6.5003e-004		60.303	1.7857
7.0002e-004		66.585	1.7541
7.5004e-004		72.87	1.7215

8.0002e-004		79.151	1.693
8.5e-004		85.431	1.6602
9.0003e-004		91.718	1.63
9.5002e-004		97.999	1.6004
1.e-003		104.28	1.5666

FIGURE 5
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Equivalent Stress
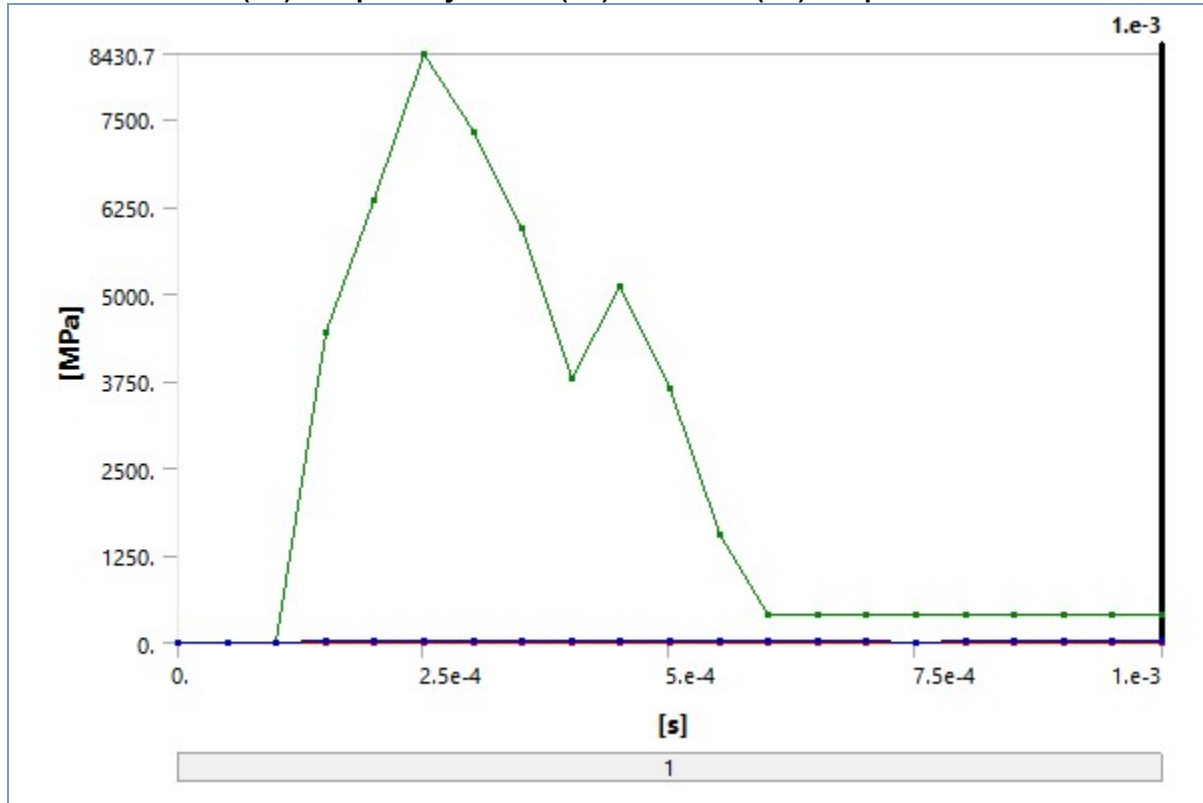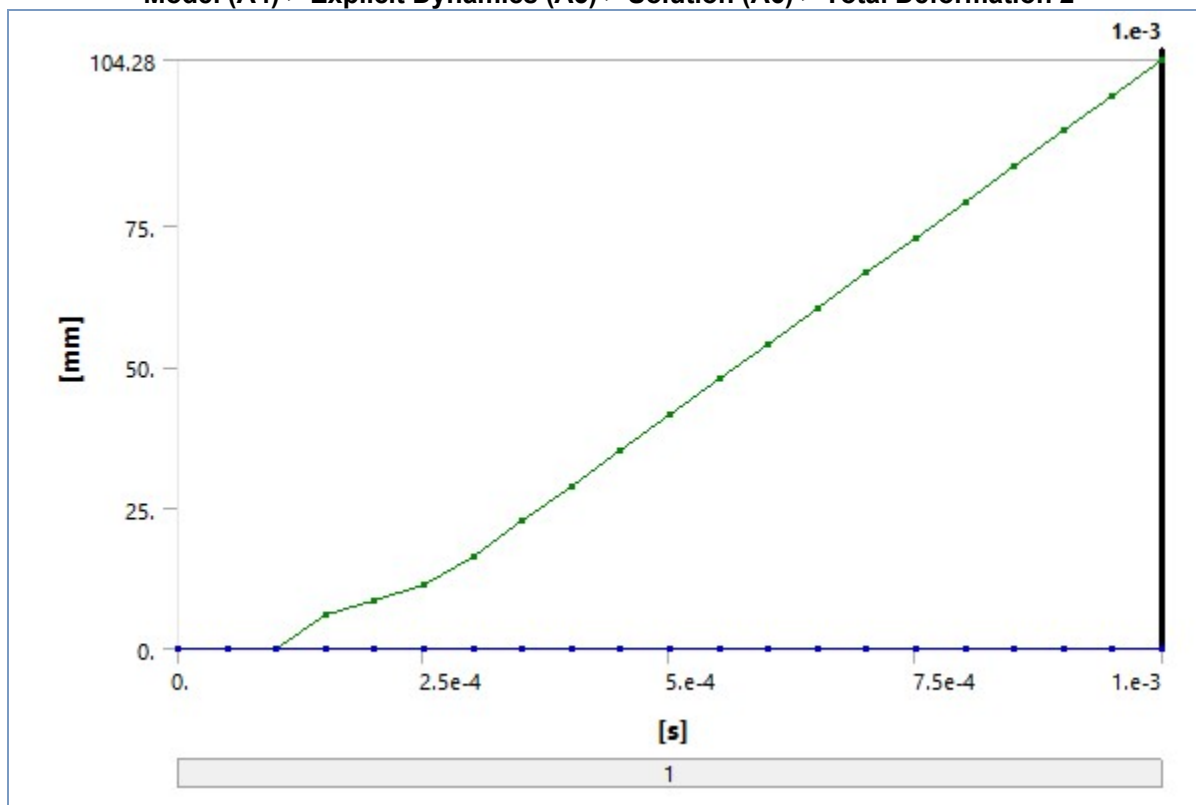

TABLE 24
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Equivalent Stress

Time [s]	Minimum [MPa]	Maximum [MPa]	Average [MPa]
1.1755e-038			
5.0106e-005	0.	0.	0.
1.0013e-004			
1.5009e-004	0.39347	4435.9	31.311
2.0003e-004	5.1696e-002	6326.9	17.742
2.5e-004	0.15635	8430.7	28.691
3.0002e-004	0.20851	7303.7	32.11
3.5e-004	0.1631	5937.1	27.198
4.0003e-004	0.51656	3793.1	25.275
4.5002e-004	0.10422	5102.9	29.494
5.0004e-004	0.36978	3650.6	25.869
5.5002e-004	0.41553	1555.9	19.3
6.0001e-004	8.0499e-002	406.55	17.526
6.5003e-004	0.48603	403.28	17.433
7.0002e-004	7.7107e-002	411.91	19.762
7.5004e-004	5.5514e-002	407.04	14.272
8.0002e-004	0.24036	398.26	19.07

8.5e-004	0.22146	406.91	14.886
9.0003e-004	0.16576	407.46	18.66
9.5002e-004	9.1418e-002	397.75	16.705
1.e-003	7.0784e-002	403.6	16.784

FIGURE 6
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Total Deformation 2

TABLE 25
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Total Deformation 2

Time [s]	Minimum [mm]	Maximum [mm]	Average [mm]
1.1755e-038			
5.0106e-005		0.	0.
1.0013e-004			
1.5009e-004		6.0575	1.4248e-002
2.0003e-004		8.5644	1.1549e-002
2.5e-004		11.336	1.729e-002
3.0002e-004		16.324	2.3105e-002
3.5e-004		22.604	2.1644e-002
4.0003e-004		28.89	2.0907e-002
4.5002e-004	0.	35.171	2.8494e-002
5.0004e-004		41.456	2.8019e-002
5.5002e-004		47.737	2.738e-002
6.0001e-004		54.018	2.647e-002
6.5003e-004		60.303	3.0518e-002
7.0002e-004		66.585	3.1048e-002
7.5004e-004		72.87	3.0827e-002
8.0002e-004		79.151	3.5161e-002
8.5e-004		85.431	3.4588e-002

		91.718	3.6615e-002
9.0003e-004			
9.5002e-004		97.999	3.9803e-002
1.e-003		104.28	3.8362e-002

FIGURE 7
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Equivalent Stress 2
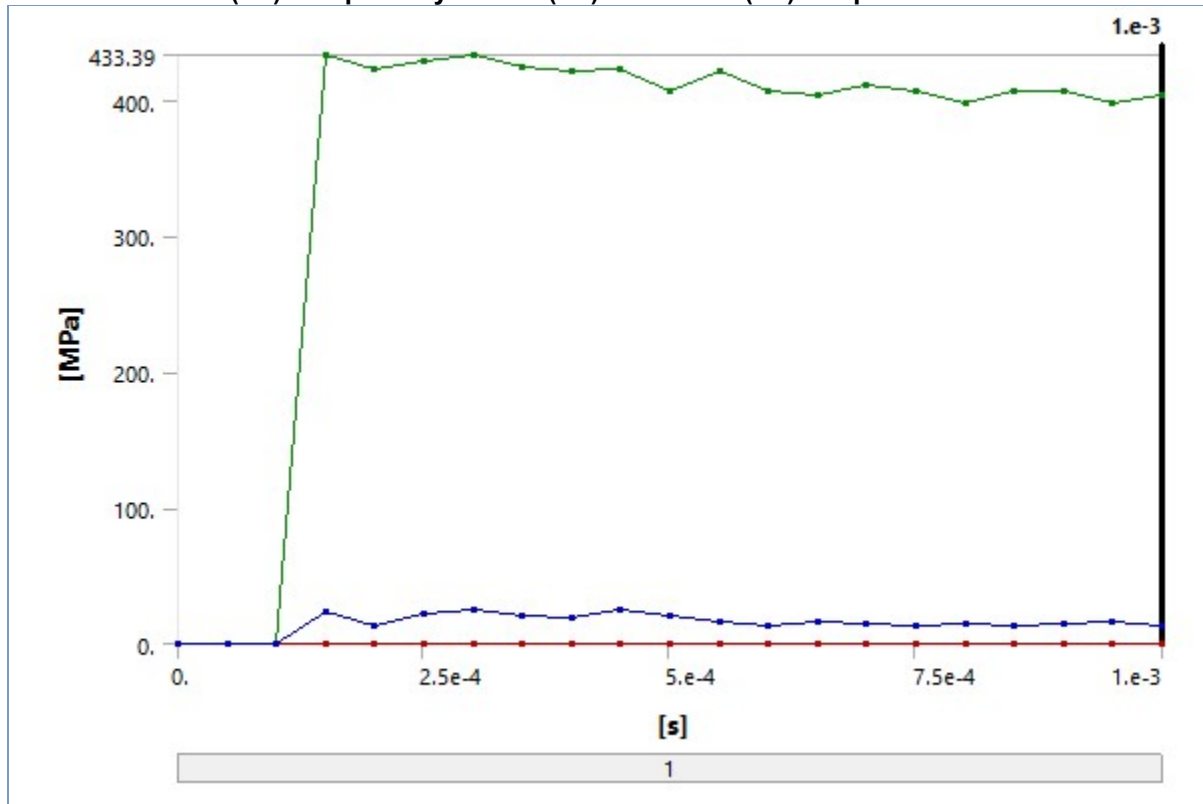

TABLE 26
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Equivalent Stress 2

Time [s]	Minimum [MPa]	Maximum [MPa]	Average [MPa]
1.1755e-038			
5.0106e-005	0.	0.	0.
1.0013e-004			
1.5009e-004	0.39347	433.25	23.732
2.0003e-004	5.1696e-002	423.09	13.272
2.5e-004	0.15635	429.5	22.376
3.0002e-004	0.20851	433.39	25.003
3.5e-004	0.1631	424.59	20.311
4.0003e-004	0.51656	422.18	19.077
4.5002e-004	0.10422	423.74	24.862
5.0004e-004	0.36978	407.01	20.29
5.5002e-004	0.41553	421.79	16.576
6.0001e-004	8.0499e-002	406.55	13.455
6.5003e-004	0.48603	403.28	16.209
7.0002e-004	7.7107e-002	411.91	15.171
7.5004e-004	5.5514e-002	407.04	12.647
8.0002e-004	0.24036	398.26	15.361
8.5e-004	0.22146	406.91	13.633
9.0003e-004	0.16576	407.46	14.898

| 9.5002e-004 | 9.1418e-002 | 397.75 | 15.488 |
| 1.e-003 | 7.0784e-002 | 403.6 | 12.8 |

FIGURE 8
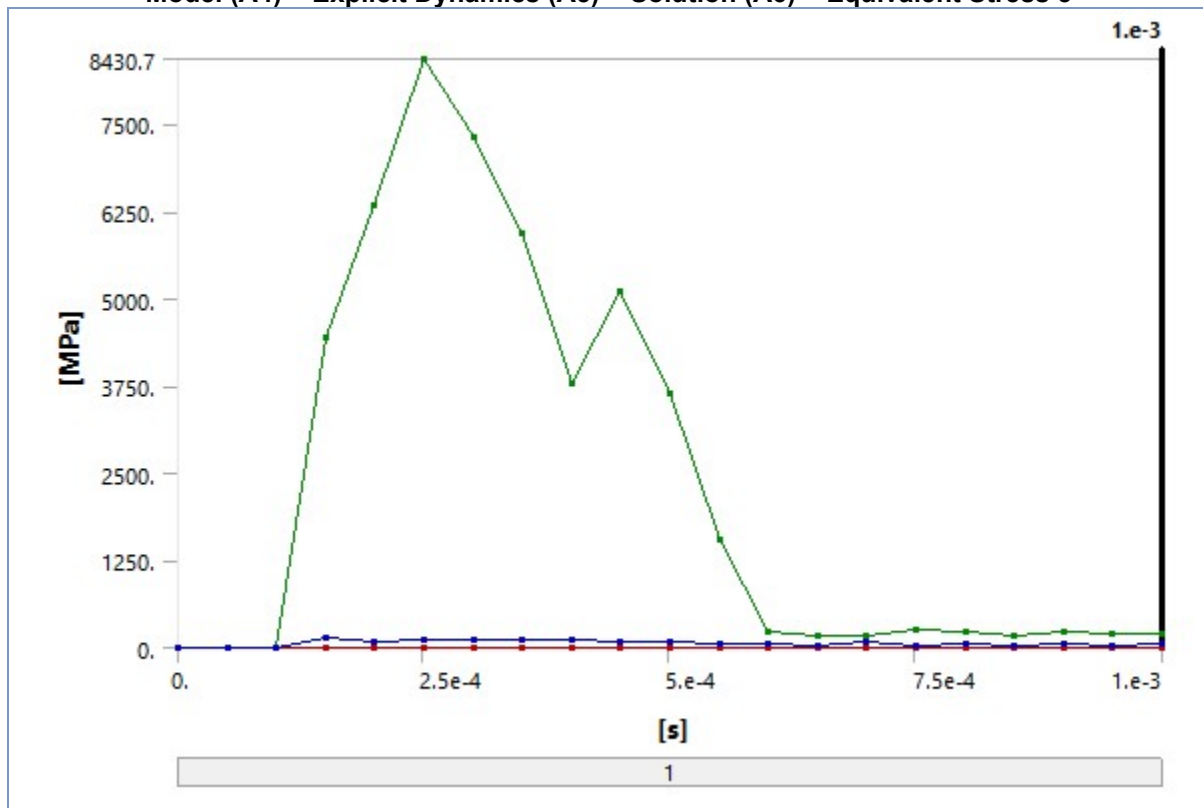**Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Equivalent Stress 3**

TABLE 27
Model (A4) > Explicit Dynamics (A5) > Solution (A6) > Equivalent Stress 3

Time [s]	Minimum [MPa]	Maximum [MPa]	Average [MPa]
1.1755e-038			
5.0106e-005	0.	0.	0.
1.0013e-004			
1.5009e-004	8.0065	4435.9	129.5
2.0003e-004	0.38913	6326.9	75.641
2.5e-004	5.2855	8430.7	110.47
3.0002e-004	7.7382	7303.7	124.13
3.5e-004	7.6647	5937.1	116.36
4.0003e-004	3.9024	3793.1	105.51
4.5002e-004	1.9228	5102.9	89.453
5.0004e-004	3.561	3650.6	98.092
5.5002e-004	1.746	1555.9	54.566
6.0001e-004	2.6543	222.32	70.229
6.5003e-004	2.6296	178.3	33.284
7.0002e-004	8.7911	167.69	79.197
7.5004e-004	1.8542	247.97	35.302
8.0002e-004	1.6279	232.01	67.075
8.5e-004	2.3578	182.13	31.109
9.0003e-004	2.399	234.76	67.359
9.5002e-004	0.8014	190.56	32.45

1.e-003	1.9806	204.14	68.362

Material Data

AL 6061-T6

TABLE 28
AL 6061-T6 > Constants

Density	2.703e-006 kg mm^-3
Specific Heat	8.85e+005 mJ kg^-1 C^-1

TABLE 29
AL 6061-T6 > Shock EOS Linear

Gruneisen Coefficient	Parameter C1 mm s^-1	Parameter S1	Parameter Quadratic S2 s mm^-1
1.97	5.24e+006	1.4	0

TABLE 30
AL 6061-T6 > Steinberg Guinan Strength

Initial Yield Stress Y MPa	Maximum Yield Stress Ymax MPa	Hardening Constant B	Hardening Exponent n	Derivative dG/dP G'P	Derivative dG/dT G'T MPa C^-1	Derivative dY/dP Y'P	Melting Temperature Tmelt C
290	680	125	0.1	1.8	-17	1.8908e-002	946.85

TABLE 31
AL 6061-T6 > Shear Modulus

Shear Modulus MPa
27600

TABLE 32
AL 6061-T6 > Color

Red	Green	Blue
170	170	170

Titanium Alloy

TABLE 33
Titanium Alloy > Constants

Density	4.62e-006 kg mm^-3
Coefficient of Thermal Expansion	9.4e-006 C^-1
Specific Heat	5.22e+005 mJ kg^-1 C^-1
Thermal Conductivity	2.19e-002 W mm^-1 C^-1
Resistivity	1.7e-003 ohm mm

TABLE 34
Titanium Alloy > Color

Red	Green	Blue
88	72	117

TABLE 35
Titanium Alloy > Compressive Ultimate Strength

Compressive Ultimate Strength MPa

0

TABLE 36
Titanium Alloy > Compressive Yield Strength

Compressive Yield Strength MPa
930

TABLE 37
Titanium Alloy > Tensile Yield Strength

Tensile Yield Strength MPa
930

TABLE 38
Titanium Alloy > Tensile Ultimate Strength

Tensile Ultimate Strength MPa
1070

TABLE 39
Titanium Alloy > Isotropic Secant Coefficient of Thermal Expansion

Zero-Thermal-Strain Reference Temperature C
22

TABLE 40
Titanium Alloy > Isotropic Elasticity

Young's Modulus MPa	Poisson's Ratio	Bulk Modulus MPa	Shear Modulus MPa	Temperature C
96000	0.36	1.1429e+005	35294	

TABLE 41
Titanium Alloy > Isotropic Relative Permeability

Relative Permeability
1