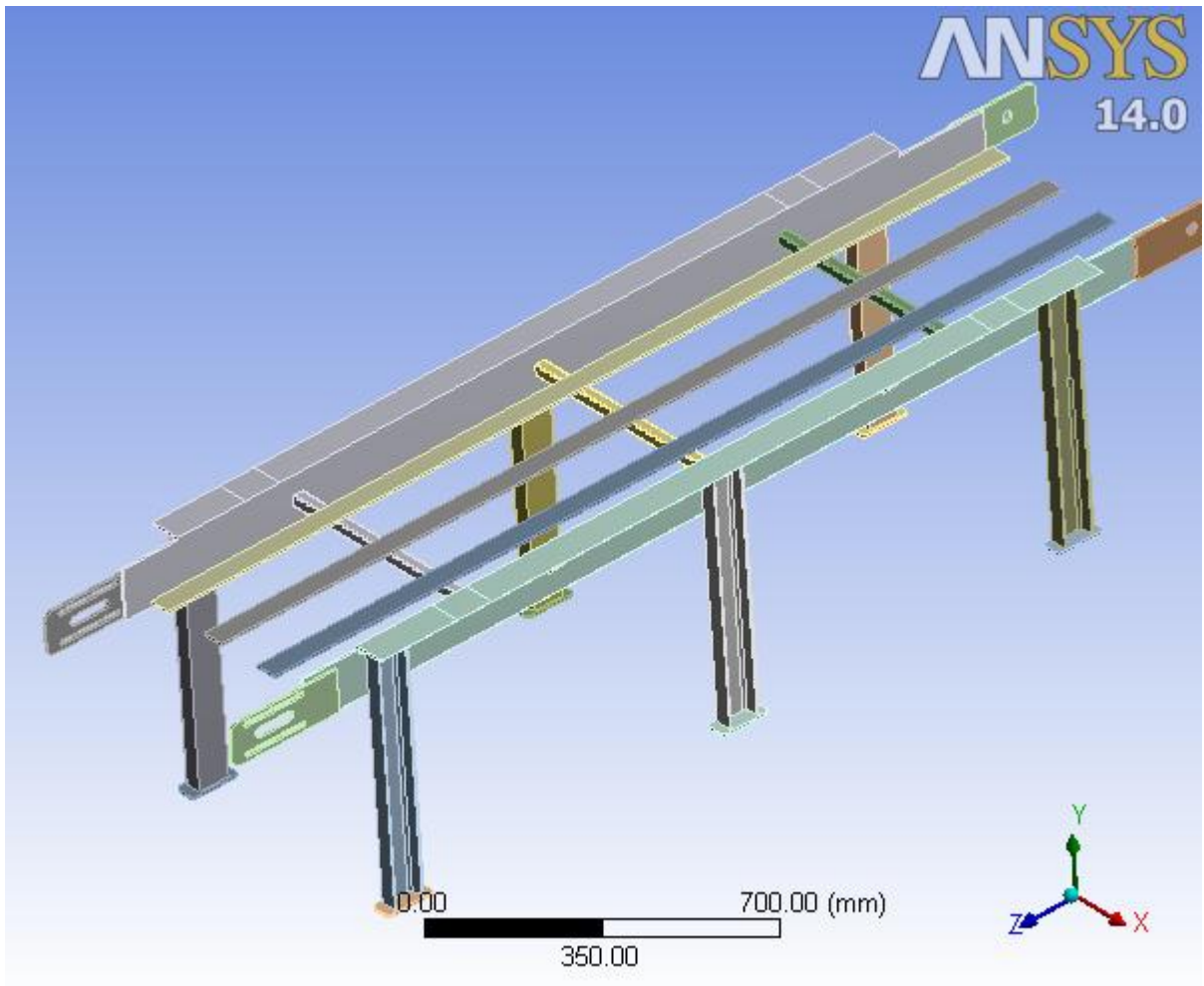




Project

First Saved	Sunday, March 30, 2014
Last Saved	Monday, March 31, 2014
Product Version	14.0 Release
Save Project Before Solution	No
Save Project After Solution	No



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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 (J4, K4)

Geometry

TABLE 2
Model (J4, K4) > Geometry

Object Name	Geometry
State	Fully Defined
Definition	
Source	C:\Users\TOSHIBA\Desktop\NEGRO GEANCARLO\simulación estructura_files\dp0\Geom-3\DM\Geom-3.agdb
Type	DesignModeler
Length Unit	Millimeters
Element Control	Program Controlled
Display Style	Body Color
Bounding Box	

Length X	687.4 mm
Length Y	625.4 mm
Length Z	2588.5 mm
Properties	
Volume	1.1911e+007 mm ³
Mass	93.499 kg
Scale Factor Value	1.
Statistics	
Bodies	28
Active Bodies	28
Nodes	781504
Elements	329633
Mesh Metric	Element Quality
Min	6.13019912113117E-04
Max	0.999999948309135
Average	0.806814322296735
Standard Deviation	0.150959646029528
Basic Geometry Options	
Parameters	Yes
Parameter Key	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	No
Attach File Via Temp File	Yes
Temporary Directory	C:\Users\TOSHIBA\AppData\Local\Temp
Analysis Type	3-D
Decompose Disjoint Faces	Yes
Enclosure and Symmetry Processing	Yes

TABLE 3
Model (J4, K4) > Geometry > Parts

Object Name	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>
State	Meshed				
Graphics Properties					
Visible	Yes				
Glow	0				
Shininess	1				
Transparency	1				
Specularity	1				

Definition					
Suppressed	No				
ID (Beta)	16	26	29	32	35
Stiffness Behavior	Flexible				
Coordinate System	Default Coordinate System				
Reference Temperature	By Environment				
Material					
Assignment	Structural Steel				
Nonlinear Effects	Yes				
Thermal Strain Effects	Yes				
Bounding Box					
Length X	76.2 mm	50. mm	6.4665 mm	50. mm	
Length Y	127. mm	6.35 mm	101.6 mm	6.35 mm	
Length Z	2250. mm	120. mm	280.07 mm	120. mm	
Properties					
Volume	2.6475e+006 mm³	37555 mm³	1.4096e+005 mm³	37555 mm³	
Mass	20.782 kg	0.29481 kg	1.1065 kg	0.29481 kg	
Centroid X	-282.39 mm	292.87 mm	277.02 mm	292.87 mm	
Centroid Y	-3.6716 mm	-582.22 mm	-30.181 mm	-582.22 mm	
Centroid Z	-4.6331 mm	-852.2 mm	1149.9 mm	900.2 mm	23.999 mm
Moment of Inertia Ip1	7.7738e+006 kg·mm²	345.34 kg·mm²	9314.3 kg·mm²	345.34 kg·mm²	345.36 kg·mm²
Moment of Inertia Ip2	7.7413e+006 kg·mm²	404.39 kg·mm²	8351.9 kg·mm²	404.39 kg·mm²	404.41 kg·mm²
Moment of Inertia Ip3	43294 kg·mm²	61.03 kg·mm²	969.84 kg·mm²	61.03 kg·mm²	61.031 kg·mm²
Statistics					
Nodes	13727	857	81089	864	
Elements	6585	107	50164	108	
Mesh Metric	Element Quality				
Min	5.82714514935706E-02	0.865039277603449	0.129364628120432	0.881911139860262	0.875066792118142
Max	0.959957394656731	0.979733153097911	0.999566797165263	0.97589476135209	0.978838310472532
Average	0.413109587667087	0.950796065926367	0.811162753448676	0.952979259878912	0.952741735755119
Standard Deviation	0.134223412896999	0.024742237522863	0.105163123243043	1.87630563861552E-02	0.020756001436963

TABLE 4
Model (J4, K4) > Geometry > Parts

Object Name	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>
State	Meshed				
Graphics Properties					
Visible	Yes				
Glow	0				
Shininess	1				

Transparency	1				
Specularity	1				
Definition					
Suppressed	No				
ID (Beta)	38	41	44	47	50
Stiffness Behavior	Flexible				
Coordinate System	Default Coordinate System				
Reference Temperature	By Environment				
Material					
Assignment	Structural Steel				
Nonlinear Effects	Yes				
Thermal Strain Effects	Yes				
Bounding Box					
Length X	50. mm	63.5 mm		6.655 mm	50. mm
Length Y	6.35 mm	63.5 mm		101.6 mm	6.35 mm
Length Z	120. mm	6. mm		280.19 mm	120. mm
Properties					
Volume	37555 mm³	11613 mm³		1.4081e+005 mm³	37555 mm³
Mass	0.29481 kg	9.1161e-002 kg		1.1054 kg	0.29481 kg
Centroid X	-292.87 mm	295.72 mm		-277.02 mm	-292.87 mm
Centroid Y	-582.22 mm	11.778 mm		-30.184 mm	-582.22 mm
Centroid Z	-852.2 mm	-414.1 mm	462.1 mm	1149.9 mm	900.2 mm
Moment of Inertia Ip1	345.34 kg·mm²	32.131 kg·mm²		9312.4 kg·mm²	345.34 kg·mm²
Moment of Inertia Ip2	404.39 kg·mm²	8.6235 kg·mm²		8350.1 kg·mm²	404.39 kg·mm²
Moment of Inertia Ip3	61.03 kg·mm²	40.207 kg·mm²		969.7 kg·mm²	61.03 kg·mm²
Statistics					
Nodes	864	6709		81266	857
Elements	108	1248		50326	107
Mesh Metric	Element Quality				
Min	0.878490483883313	0.336843012205488	0.336843012205479	0.129671915474522	0.868385488520781
Max	0.977665980349518	0.931742493727472	0.931742493727513	0.999796676340787	0.979887004843266
Average	0.953266486922272	0.627573075692304	0.627573075692325	0.812871870874743	0.950895515594617
Standard Deviation	1.91658992674769E-02	0.174895377695106	0.174895377695108	0.104628287117515	2.30692031401213E-02

TABLE 5
Model (J4, K4) > Geometry > Parts

Object Name	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>
State	Meshed				
Graphics Properties					
Visible	Yes				
Glow	0				

Shininess	1				
Transparency	1				
Specularity	1				
Definition					
Suppressed	No				
ID (Beta)	53	56	59	62	65
Stiffness Behavior	Flexible				
Coordinate System	Default Coordinate System				
Reference Temperature	By Environment				
Material					
Assignment	Structural Steel				
Nonlinear Effects	Yes				
Thermal Strain Effects	Yes				
Bounding Box					
Length X	50. mm	63.5 mm		38.049 mm	
Length Y	6.35 mm	63.5 mm		600. mm	
Length Z	120. mm	6. mm		76.2 mm	
Properties					
Volume	37555 mm³	11613 mm³		5.6973e+005 mm³	
Mass	0.29481 kg	9.1161e-002 kg		4.4724 kg	
Centroid X	-292.87 mm	-295.72 mm		-285. mm	
Centroid Y	-582.22 mm	11.778 mm		-279.05 mm	
Centroid Z	23.999 mm	462.1 mm	-414.1 mm	24. mm	900.2 mm
Moment of Inertia Ip1	345.36 kg·mm²	8.6235 kg·mm²	32.131 kg·mm²	1.3785e+005 kg·mm²	
Moment of Inertia Ip2	404.41 kg·mm²	32.131 kg·mm²	8.6235 kg·mm²	4126.6 kg·mm²	
Moment of Inertia Ip3	61.031 kg·mm²	40.207 kg·mm²		1.3469e+005 kg·mm²	
Statistics					
Nodes	857	6709		12799	13552
Elements	107	1248		2243	2572
Mesh Metric	Element Quality				
Min	0.868436002698134	0.336843012205471	0.33684301220548	1.41916164563235E-03	5.44650774267894E-02
Max	0.979886469996264	0.931742493727523	0.931742493727503	0.999526124872155	0.998201434506981
Average	0.950962160266636	0.627573075692318	0.627573075692304	0.71952081475178	0.692076275643868
Standard Deviation	2.31913231728549E-02	0.174895377695111	0.174895377695104	0.231670619691297	0.235767608111554

TABLE 6
Model (J4, K4) > Geometry > Parts

Object Name	Solid	Solid	Solid	Solid	Solid
State	Meshed				
Graphics Properties					

Visible	Yes				
Glow	0				
Shininess	1				
Transparency	1				
Specularity	1				
Definition					
Suppressed	No				
ID (Beta)	68	71	74	77	80
Stiffness Behavior	Flexible				
Coordinate System	Default Coordinate System				
Reference Temperature	By Environment				
Material					
Assignment	Structural Steel				
Nonlinear Effects	Yes				
Thermal Strain Effects	Yes				
Bounding Box					
Length X	38.049 mm			7.1479 mm	38.049 mm
Length Y	600. mm			102.08 mm	600. mm
Length Z	76.2 mm			220. mm	76.2 mm
Properties					
Volume	5.6831e+005 mm³	5.6973e+005 mm³		1.3808e+005 mm³	5.6973e+005 mm³
Mass	4.4613 kg	4.4724 kg		1.0839 kg	4.4724 kg
Centroid X	285.01 mm	285. mm		-277.02 mm	-285. mm
Centroid Y	-279.47 mm	-279.05 mm		-29.937 mm	-279.05 mm
Centroid Z	-852.13 mm	24. mm	900.2 mm	-1178.3 mm	-852.2 mm
Moment of Inertia Ip1	1.3748e+005 kg·mm²	1.3785e+005 kg·mm²		5309.5 kg·mm²	1.3785e+005 kg·mm²
Moment of Inertia Ip2	4117.9 kg·mm²	4126.6 kg·mm²		4371.5 kg·mm²	4126.6 kg·mm²
Moment of Inertia Ip3	1.3434e+005 kg·mm²	1.3469e+005 kg·mm²		945.29 kg·mm²	1.3469e+005 kg·mm²
Statistics					
Nodes	13896	12168	13272	230624	12116
Elements	2846	2029	2439	153559	2000
Mesh Metric	Element Quality				
Min	6.13019912113117E-04	3.92435089083042E-02	3.02450255223943E-02	0.10282992348661	6.74478185019301E-02
Max	0.999154558513922	0.998089621325293	0.99953084118408	0.999870607067742	0.99926181485683
Average	0.62621932407436	0.751540028187783	0.705226388966478	0.833672589078879	0.776083186786284
Standard Deviation	0.264764530828304	0.249368474454498	0.24474937660826	9.87490260833276E-02	0.234701830500695

TABLE 7
Model (J4, K4) > Geometry > Parts

Object Name	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>	<i>Solid</i>
-------------	--------------	--------------	--------------	--------------	--------------

State	Meshed				
Graphics Properties					
Visible	Yes				
Glow	0				
Shininess	1				
Transparency	1				
Specularity	1				
Definition					
Suppressed	No				
ID (Beta)	83	86	89	92	95
Stiffness Behavior	Flexible				
Coordinate System	Default Coordinate System				
Reference Temperature	By Environment				
Material					
Assignment	Structural Steel				
Nonlinear Effects	Yes				
Thermal Strain Effects	Yes				
Bounding Box					
Length X	76.2 mm	535. mm		50.8 mm	
Length Y	127. mm	25.4 mm		6.35 mm	
Length Z	2250. mm	25.4 mm		2200. mm	
Properties					
Volume	2.6475e+006 mm³	81616 mm³		7.0968e+005 mm³	
Mass	20.782 kg	0.64068 kg		5.571 kg	
Centroid X	282.39 mm	-1.4143e-014 mm	-1.6867e-012 mm	-159.15 mm	5.1399e-015 mm
Centroid Y	-3.6724 mm	-13.765 mm		-3.175 mm	
Centroid Z	-4.6334 mm	16.585 mm	649.58 mm	1.1898e-013 mm	-6.999e-015 mm
Moment of Inertia Ip1	7.7737e+006 kg·mm²	74.798 kg·mm²	74.799 kg·mm²	2.247e+006 kg·mm²	
Moment of Inertia Ip2	7.7412e+006 kg·mm²	15343 kg·mm²	15300 kg·mm²	2.2482e+006 kg·mm²	
Moment of Inertia Ip3	43291 kg·mm²	15299 kg·mm²	15343 kg·mm²	1216.8 kg·mm²	
Statistics					
Nodes	12584	14327	12387	42115	42122
Elements	6033	2461	1819	6685	6689
Mesh Metric	Element Quality				
Min	0.053058772225229	0.165378149086694	0.307814007459589	0.248943345669247	0.256828346956704
Max	0.918081025725775	0.785065221117257	0.785065221117429	0.974263652505337	0.997454009641702
Average	0.386457222226488	0.565313824526271	0.651508838943141	0.879296669143878	0.879244684704084
Standard Deviation	0.127982197168185	0.164675448712586	0.146358547733466	5.19608970019069E-02	5.16167724644667E-02

TABLE 8
Model (J4, K4) > Geometry > Parts

Object Name	Solid	Solid	Solid
State	Meshed		
Graphics Properties			
Visible	Yes		
Glow	0		
Shininess	1		
Transparency	1		
Specularity	1		
Definition			
Suppressed	No		
ID (Beta)	98	101	104
Stiffness Behavior	Flexible		
Coordinate System	Default Coordinate System		
Reference Temperature	By Environment		
Material			
Assignment	Structural Steel		
Nonlinear Effects	Yes		
Thermal Strain Effects	Yes		
Bounding Box			
Length X	50.8 mm	535. mm	6.4349 mm
Length Y	6.35 mm	25.4 mm	101.69 mm
Length Z	2200. mm	25.4 mm	220.08 mm
Properties			
Volume	7.0968e+005 mm³	81616 mm³	1.3337e+005 mm³
Mass	5.571 kg	0.64068 kg	1.047 kg
Centroid X	159.15 mm	-2.1906e-012 mm	277. mm
Centroid Y	-3.175 mm	-13.765 mm	-30.198 mm
Centroid Z	2.0997e-014 mm	-616.42 mm	-1177.9 mm
Moment of Inertia Ip1	2.247e+006 kg·mm²	74.799 kg·mm²	5202.5 kg·mm²
Moment of Inertia Ip2	2.2482e+006 kg·mm²	15343 kg·mm²	4286.3 kg·mm²
Moment of Inertia Ip3	1216.8 kg·mm²	15300 kg·mm²	923.1 kg·mm²
Statistics			
Nodes	42516	12926	86019
Elements	6692	2033	16821
Mesh Metric	Element Quality		
Min	0.111342545531267	0.175177541150637	0.329910214733541
Max	0.996401565999025	0.978117277669137	0.999999948309135
Average	0.883164163479737	0.595298088287866	0.95755178441777
Standard Deviation	0.05617617213827	0.227919188132408	7.87585963863015E-02

Coordinate Systems

TABLE 9
Model (J4, K4) > Coordinate Systems > Coordinate System

Object Name	<i>Global Coordinate System</i>
State	Fully Defined
Definition	
Type	Cartesian

Coordinate System ID	0.
Origin	
Origin X	0. mm
Origin Y	0. mm
Origin Z	0. mm
Directional Vectors	
X Axis Data	[1. 0. 0.]
Y Axis Data	[0. 1. 0.]
Z Axis Data	[0. 0. 1.]

Connections

TABLE 10
Model (J4, K4) > Connections

Object Name	<i>Connections</i>
State	Fully Defined
Auto Detection	
Generate Automatic Connection On Refresh	Yes
Transparency	
Enabled	Yes

TABLE 11
Model (J4, K4) > Connections > Contacts

Header (R4, R4) > Connections > Contact		
Object Name	Contacts	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	6.8758 mm	
Use Range	No	
Face/Face	No	
Face/Edge	No	
Edge/Edge	No	
Priority	Include All	
Group By	Bodies	
Search Across	Bodies	

TABLE 12
Model (J4, K4) > Connections > Contacts > Contact Regions

Model [G4, R4] > Connections > Contacts > Contact Regions					
Object Name	Bonded - Multiple To Solid	Bonded - Multiple To Solid	Bonded - Multiple To Multiple	Bonded - Multiple To Solid	Bonded - Solid To Solid
State	Fully Defined				
Scope					

Scoping Method	Geometry Selection			
Contact	3 Faces		5 Faces	1 Face
Target	1 Face	3 Faces	1 Face	
Contact Bodies	Multiple			Solid
Target Bodies	Solid	Multiple	Solid	
Definition				
Type	Bonded			
Scope Mode	Manual			
Behavior	Program Controlled			
Trim Contact (Beta)	Program Controlled			
Suppressed	No			
Advanced				
Formulation	Program Controlled			
Detection Method	Program Controlled			
Penetration Tolerance (Beta)	Program Controlled			
Normal Stiffness	Program Controlled			
Update Stiffness	Program Controlled			
Pinball Region	Program Controlled			

TABLE 13
Model (J4, K4) > Connections > Contacts > Contact Regions

Object Name	<i>Bonded - Multiple To Solid</i>	<i>Bonded - Solid To Solid</i>	<i>Bonded - Solid To Solid</i>	<i>Bonded - Solid To Solid</i>	<i>Bonded - Solid To Solid</i>
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Contact	5 Faces	1 Face			
Target	1 Face				
Contact Bodies	Multiple	Solid			
Target Bodies	Solid				
Definition					
Type	Bonded				
Scope Mode	Manual				
Behavior	Program Controlled				
Trim Contact (Beta)	Program Controlled				
Suppressed	No				
Advanced					
Formulation	Program Controlled				
Detection Method	Program Controlled				
Penetration Tolerance (Beta)	Program Controlled				
Normal Stiffness	Program Controlled				
Update Stiffness	Program Controlled				
Pinball Region	Program Controlled				

TABLE 14
Model (J4, K4) > Connections > Contacts > Contact Regions

Object Name	<i>Bonded - Solid To Solid</i> <i>Bonded - Solid To Solid</i>
State	Fully Defined
Scope	
Scoping Method	Geometry Selection
Contact	1 Face
Target	1 Face
Contact Bodies	Solid
Target Bodies	Solid
Definition	
Type	Bonded
Scope Mode	Manual
Behavior	Program Controlled
Trim Contact (Beta)	Program Controlled
Suppressed	No
Advanced	
Formulation	Program Controlled
Detection Method	Program Controlled
Penetration Tolerance (Beta)	Program Controlled
Normal Stiffness	Program Controlled
Update Stiffness	Program Controlled
Pinball Region	Program Controlled

TABLE 15
Model (J4, K4) > Connections > Contacts 2 > Contact Regions

Object Name	<i>Bonded - Multiple To Solid</i>	<i>Bonded - Multiple To Solid</i>	<i>Bonded - Solid To Solid</i>	<i>Bonded - Solid To Solid</i>	<i>Bonded - Solid To Solid</i>
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Contact	2 Faces		1 Face		
Target	1 Face				
Contact Bodies	Multiple		Solid		
Target Bodies	Solid				
Definition					
Type	Bonded				
Scope Mode	Manual				
Behavior	Program Controlled				
Trim Contact (Beta)	Program Controlled				
Suppressed	No				
Advanced					
Formulation	Program Controlled				
Detection Method	Program Controlled				
Penetration Tolerance (Beta)	Program Controlled				
Normal Stiffness	Program Controlled				

Update Stiffness	Program Controlled
Pinball Region	Program Controlled

Mesh

TABLE 16
Model (J4, K4) > Mesh

Object Name	<i>Mesh</i>
State	Solved
Defaults	
Physics Preference	Mechanical
Relevance	75
Sizing	
Use Advanced Size Function	Off
Relevance Center	Coarse
Element Size	Default
Initial Size Seed	Active Assembly
Smoothing	Medium
Transition	Fast
Span Angle Center	Coarse
Minimum Edge Length	1.0 mm
Inflation	
Use Automatic Inflation	None
Inflation Option	Smooth Transition
Transition Ratio	0.272
Maximum Layers	5
Growth Rate	1.2
Inflation Algorithm	Pre
View Advanced Options	No
Patch Conforming Options	
Triangle Surface Mesher	Program Controlled
Advanced	
Shape Checking	Standard Mechanical
Element Midside Nodes	Program Controlled
Straight Sided Elements	No
Number of Retries	Default (4)
Extra Retries For Assembly	Yes
Rigid Body Behavior	Dimensionally Reduced
Mesh Morphing	Disabled
Defeaturing	
Pinch Tolerance	Please Define
Generate Pinch on Refresh	No
Automatic Mesh Based Defeaturing	On
Defeaturing Tolerance	Default
Statistics	
Nodes	781504
Elements	329633
Mesh Metric	Element Quality

Min	6.13019912113117E-04
Max	0.999999948309135
Average	0.806814322296735
Standard Deviation	0.150959646029528

TABLE 17
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Mapped Face Meshing	Mapped Face Meshing 2	Mapped Face Meshing 3	Mapped Face Meshing 4	Mapped Face Meshing 5
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Face				
Definition					
Suppressed	No				
Constrain Boundary	No				
Advanced					
Specified Sides	No Selection				
Specified Corners	No Selection				
Specified Ends	No Selection				

TABLE 18
Model (J4, K4) > Mesh > Mesh Controls

Object Name	<i>Mapped Face Meshing 6</i>	<i>Mapped Face Meshing 7</i>	<i>Mapped Face Meshing 8</i>	<i>Hex Dominant Method</i>	<i>Hex Dominant Method 2</i>
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Face	5 Faces		1 Body	
Definition					
Suppressed	No				
Constrain Boundary	No				
Method				Hex Dominant	
Element Midside Nodes				Use Global Setting	
Free Face Mesh Type				Quad/Tri	
Control Messages				Yes, Click To Display...	
Advanced					
Specified Sides	No Selection				
Specified Corners	No Selection				
Specified Ends	No Selection				

TABLE 19
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Hex Dominant Method 3	Hex Dominant Method 4	Hex Dominant Method 5	Hex Dominant Method 6	Hex Dominant Method 7
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Body				
Definition					
Suppressed	No				
Method	Hex Dominant				
Element Midside Nodes	Use Global Setting				
Free Face Mesh Type	Quad/Tri				
Control Messages	Yes, Click To Display...				

TABLE 20
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Hex Dominant Method 8	Hex Dominant Method 9	Mapped Face Meshing 9	Mapped Face Meshing 10	Mapped Face Meshing 11
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Body		1 Face		
Definition					
Suppressed	No				
Method	Hex Dominant				
Element Midside Nodes	Use Global Setting				
Free Face Mesh Type	Quad/Tri				
Control Messages	Yes, Click To Display...				
Constrain Boundary			No		
Advanced					
Specified Sides			No Selection		
Specified Corners			No Selection		
Specified Ends			No Selection		

TABLE 21
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Mapped Face Meshing 12	Mapped Face Meshing 13	Mapped Face Meshing 14	Sweep Method 7	Sweep Method 8
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Face			1 Body	

Definition		
Suppressed	No	
Constrain Boundary	No	
Method		Sweep
Element Midside Nodes		Use Global Setting
Src/Trg Selection		Automatic
Source		Program Controlled
Target		Program Controlled
Free Face Mesh Type		Quad/Tri
Type		Number of Divisions
Sweep Num Divs		Default
Sweep Bias Type		No Bias
Element Option		Solid
Advanced		
Specified Sides	No Selection	
Specified Corners	No Selection	
Specified Ends	No Selection	

TABLE 22
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Sweep Method 9	Body Sizing	Body Sizing 2	Body Sizing 3	Body Sizing 4
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Body				
Definition					
Suppressed	No				
Method	Sweep				
Element Midside Nodes	Use Global Setting				
Src/Trg Selection	Automatic				
Source	Program Controlled				
Target	Program Controlled				
Free Face Mesh Type	Quad/Tri				
Type	Number of Divisions	Element Size			
Sweep Num Divs	Default				
Sweep Bias Type	No Bias				
Element Option	Solid				
Element Size		2. mm			
Behavior		Soft			

TABLE 23
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Body Sizing 5	Body Sizing 6	Body Sizing 7	Body Sizing 8	Body Sizing 9
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Body				6 Bodies
Definition					
Suppressed	No				
Type	Element Size				
Element Size	3. mm		2. mm		8. mm
Behavior	Soft				

TABLE 24
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Body Sizing 10	Body Sizing 11	Body Sizing 12	Body Sizing 13	Body Sizing 14
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Body				5 Bodies
Definition					
Suppressed	No				
Type	Element Size				
Element Size	5. mm			8. mm	
Behavior	Soft				

TABLE 25
Model (J4, K4) > Mesh > Mesh Controls

Object Name	Body Sizing 15
State	Fully Defined
Scope	
Scoping Method	Geometry Selection
Geometry	3 Bodies
Definition	
Suppressed	No
Type	Element Size
Element Size	5. mm
Behavior	Soft

Named Selections

TABLE 26
Model (J4, K4) > Named Selections > Named Selections

Object Name	soporte2	soporte evaporador
State	Fully Defined	
Scope		
Scoping Method	Geometry Selection	
Geometry	2 Faces	
Definition		

Send to Solver	Yes
Visible	Yes
Program Controlled Inflation	Exclude
Statistics	
Type	Imported
Total Selection	2 Faces
Suppressed	0
Used by Mesh Worksheet	No

Static Structural (K5)

TABLE 27
Model (J4, K4) > Analysis

Object Name	<i>Static Structural (K5)</i>
State	Solved
Definition	
Physics Type	Structural
Analysis Type	Static Structural
Solver Target	Mechanical APDL
Options	
Environment Temperature	22. °C
Generate Input Only	No

TABLE 28
Model (J4, K4) > Static Structural (K5) > Analysis Settings

Object Name	<i>Analysis Settings</i>
State	Fully Defined
Step Controls	
Number Of Steps	1.
Current Step Number	1.
Step End Time	1. s
Auto Time Stepping	Program Controlled
Solver Controls	
Solver Type	Program Controlled
Weak Springs	Program Controlled
Large Deflection	Off
Inertia Relief	Off
Restart Controls	
Generate Restart Points	Program Controlled
Retain Files After Full Solve	No
Nonlinear Controls	
Force Convergence	Program Controlled
Moment Convergence	Program Controlled
Displacement Convergence	Program Controlled
Rotation Convergence	Program Controlled
Line Search	Program Controlled

Stabilization	Off
Output Controls	
Stress	Yes
Strain	Yes
Nodal Forces	No
Contact Miscellaneous	No
General Miscellaneous	No
Calculate Results At	All Time Points
Cache Results in Memory (Beta)	Never
Max Number of Result Sets	Program Controlled
Analysis Data Management	
Solver Files Directory	C:\Users\TOSHIBA\Desktop\NEGRO GEANCARLO\simulación estructura_files\dp0\SYS-7\MECH\
Future Analysis	None
Scratch Solver Files Directory	
Save MAPDL db	No
Delete Unneeded Files	Yes
Nonlinear Solution	No
Solver Units	Active System
Solver Unit System	mm

TABLE 29
Model (J4, K4) > Static Structural (K5) > Loads

Object Name	<i>Fixed Support</i>	<i>Pressure</i>	<i>Pressure 2</i>	<i>Bearing Load</i>	<i>Bearing Load 2</i>
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	6 Faces	4 Faces	3 Faces	1 Face	
Definition					
ID (Beta)	383	385	387	394	396
Type	Fixed Support	Pressure		Bearing Load	
Suppressed	No				
Define By		Normal To		Components	
Magnitude		7.5098e-002 MPa (ramped)	3.6867e-003 MPa (ramped)		
Coordinate System				Global Coordinate System	
X Component				0. N	
Y Component				-27.66 N	0. N
Z Component				27.66 N	78.48 N

FIGURE 1
Model (J4, K4) > Static Structural (K5) > Pressure

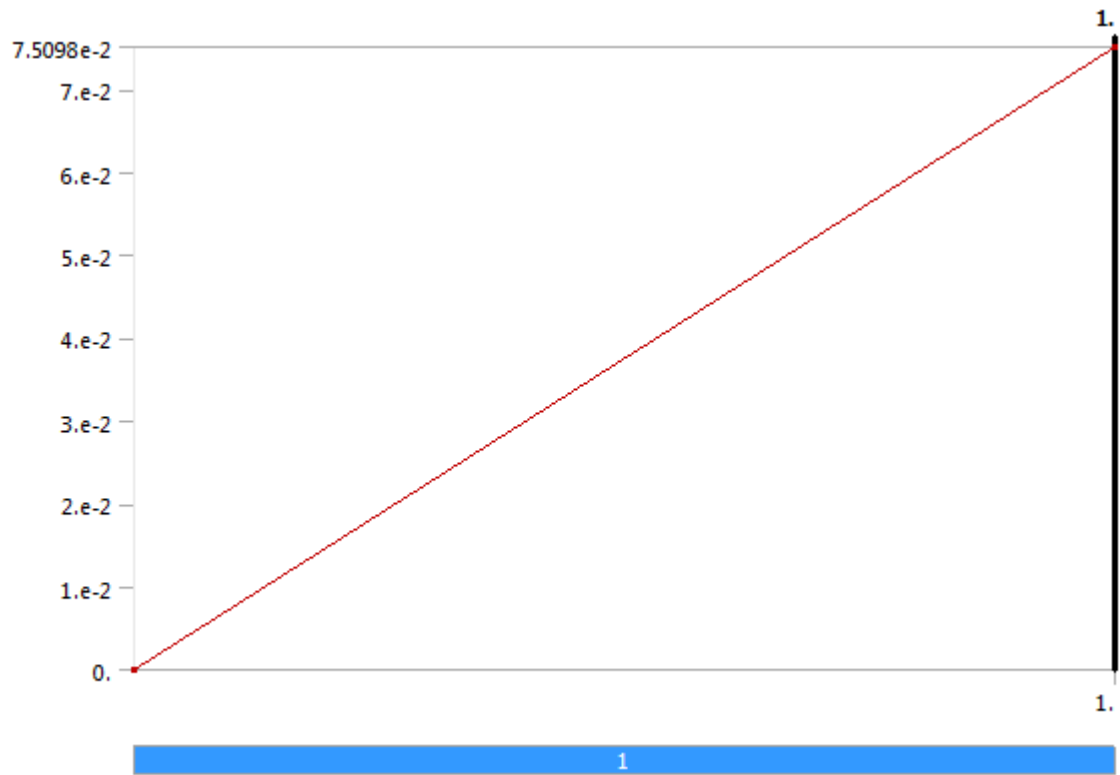


FIGURE 2
Model (J4, K4) > Static Structural (K5) > Pressure 2

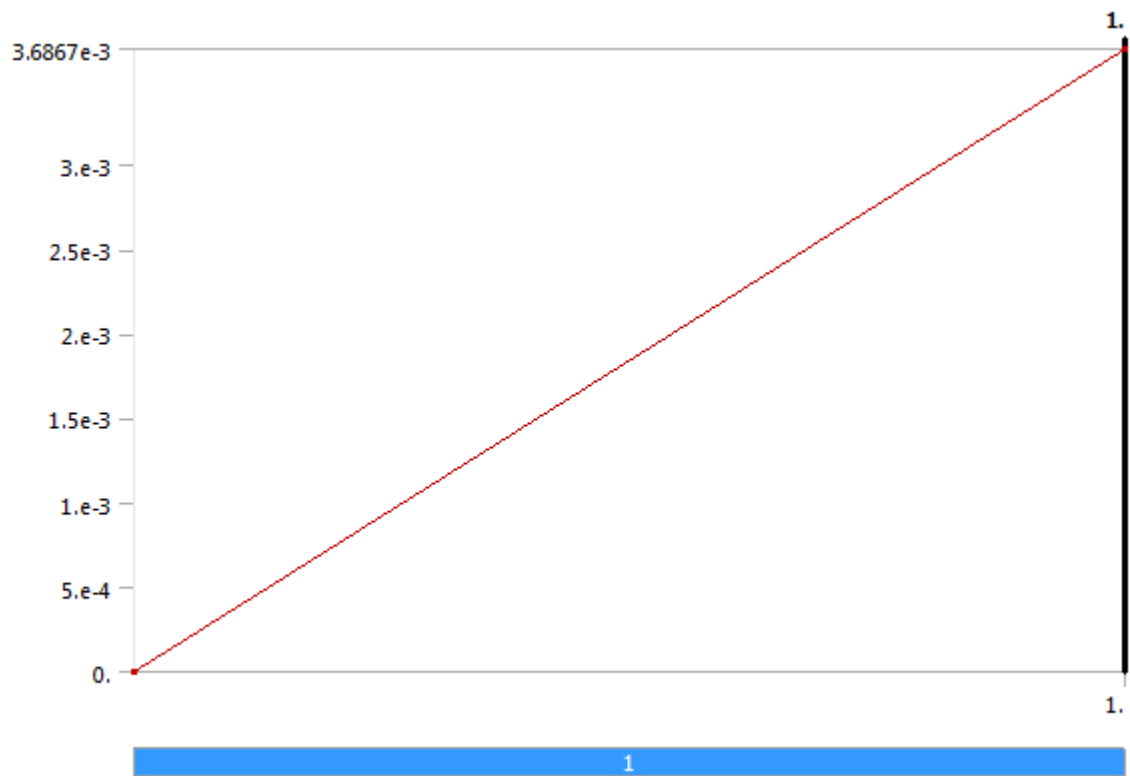


FIGURE 3
Model (J4, K4) > Static Structural (K5) > Bearing Load

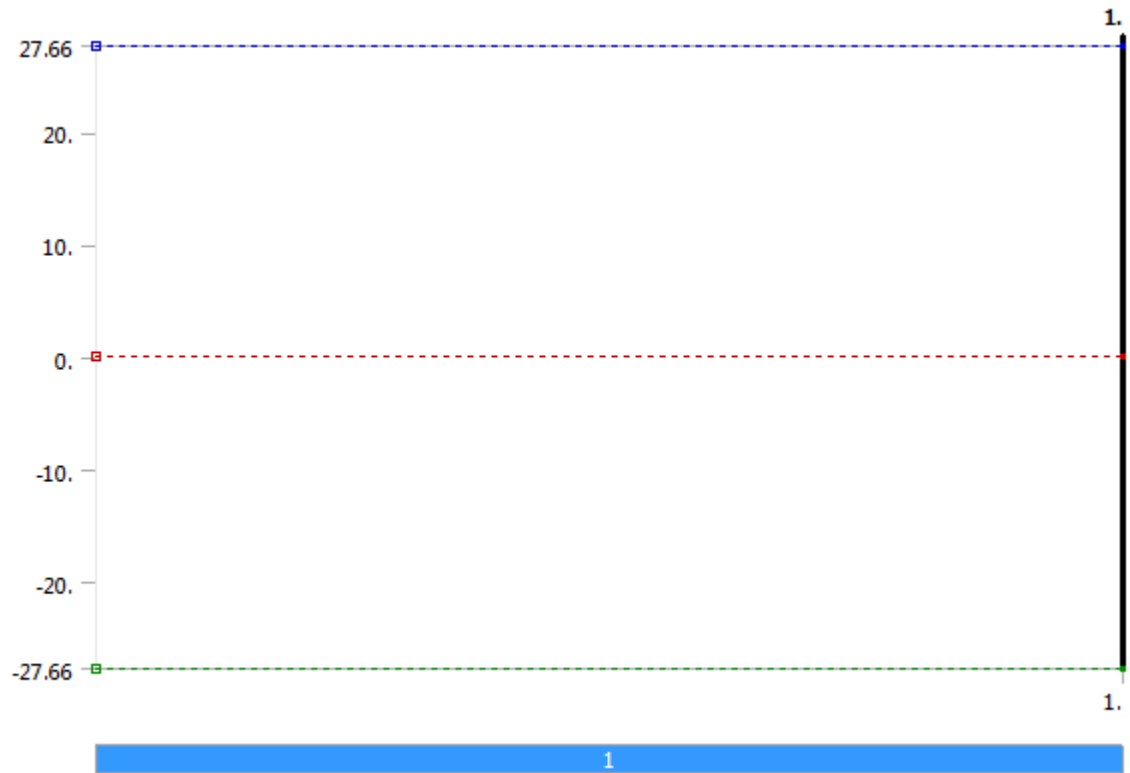


FIGURE 4
Model (J4, K4) > Static Structural (K5) > Bearing Load 2

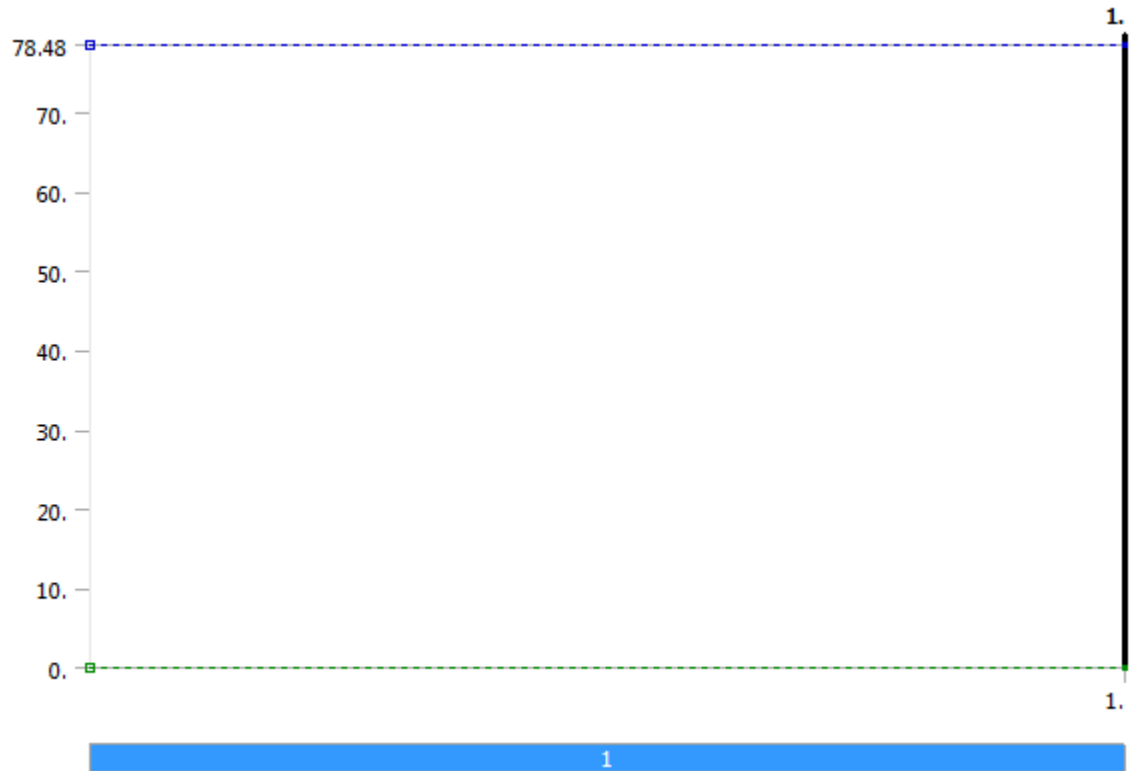


TABLE 30
Model (J4, K4) > Static Structural (K5) > Loads

Object Name	Bearing Load 3	Bearing Load 4	Force	Force 2	Bearing Load 5
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Face				
Definition					
ID (Beta)	398	400	402	404	406
Type	Bearing Load		Force		Bearing Load
Define By	Components				
Coordinate System	Global Coordinate System				
X Component	0. N		0. N (ramped)		0. N
Y Component	0. N	-27.66 N	-44.145 N (ramped)		-44.145 N
Z Component	78.48 N	27.66 N	0. N (ramped)		0. N
Suppressed	No				

FIGURE 5
Model (J4, K4) > Static Structural (K5) > Bearing Load 3

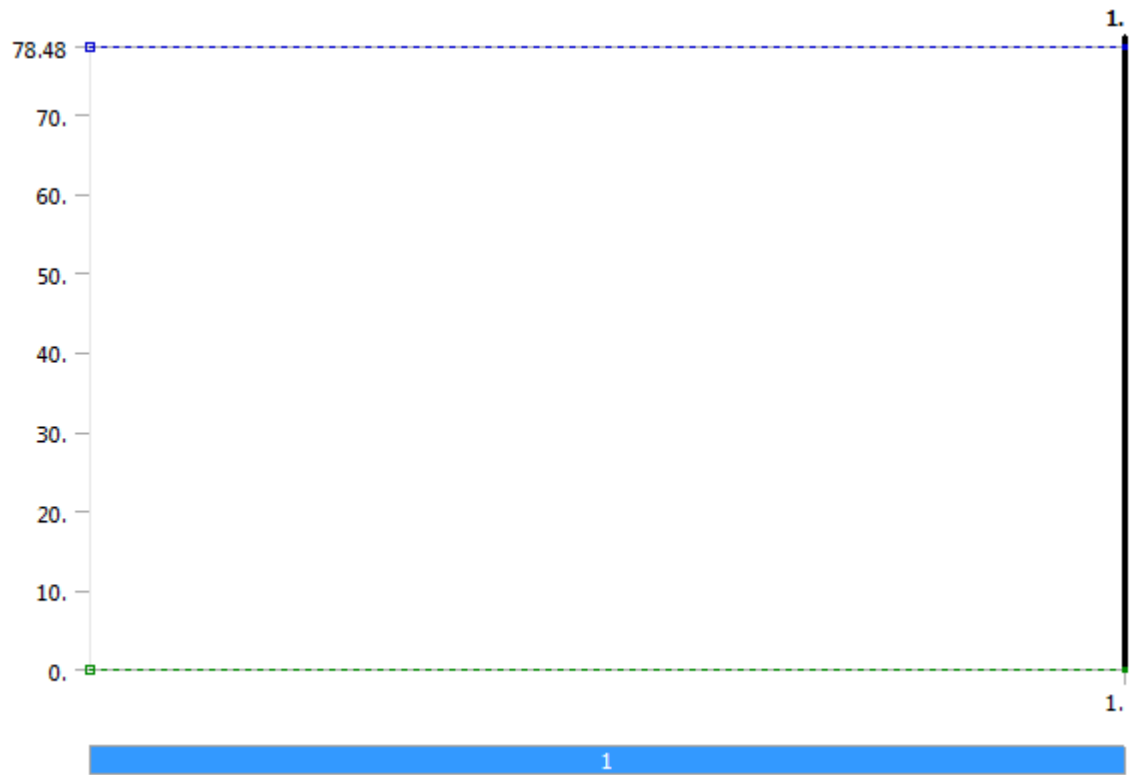


FIGURE 6
Model (J4, K4) > Static Structural (K5) > Bearing Load 4

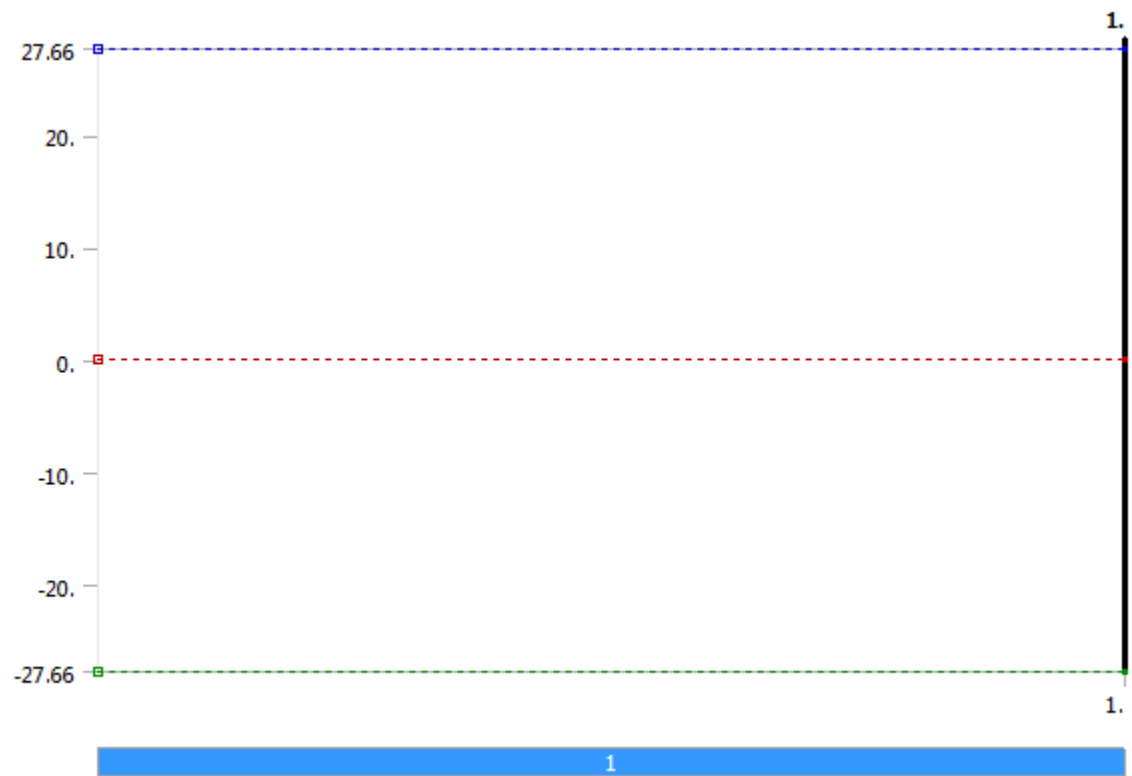


FIGURE 7
Model (J4, K4) > Static Structural (K5) > Force

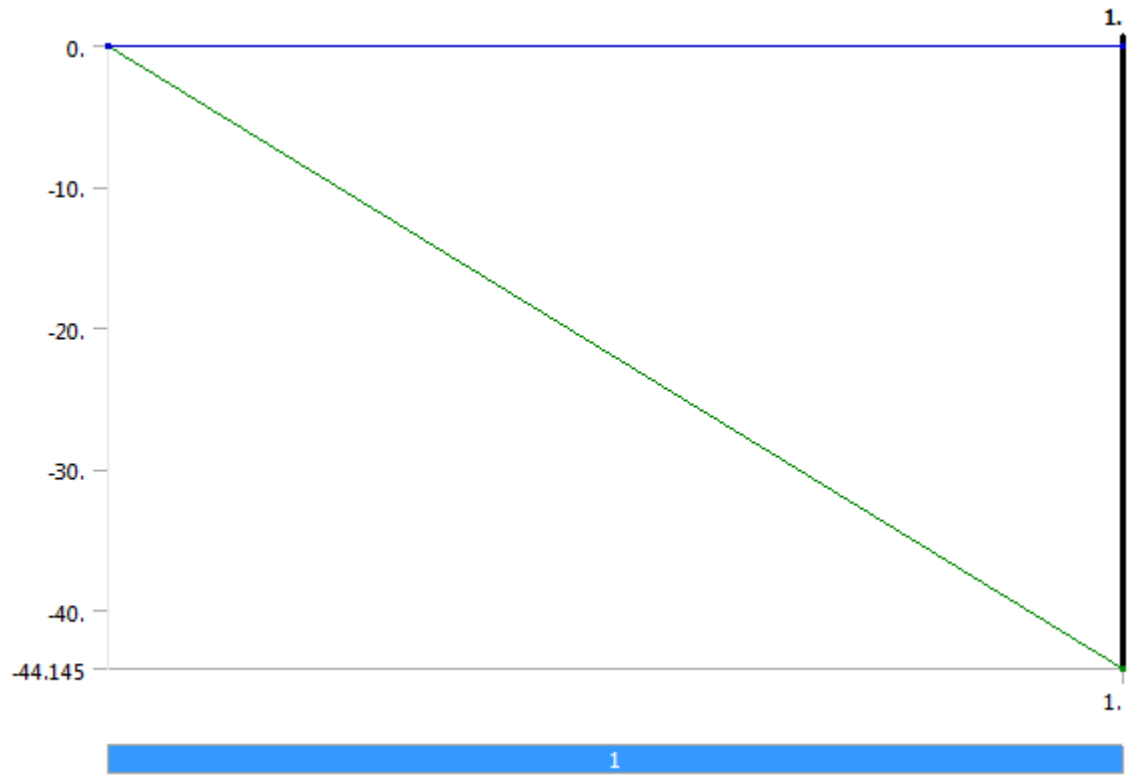


FIGURE 8
Model (J4, K4) > Static Structural (K5) > Force 2

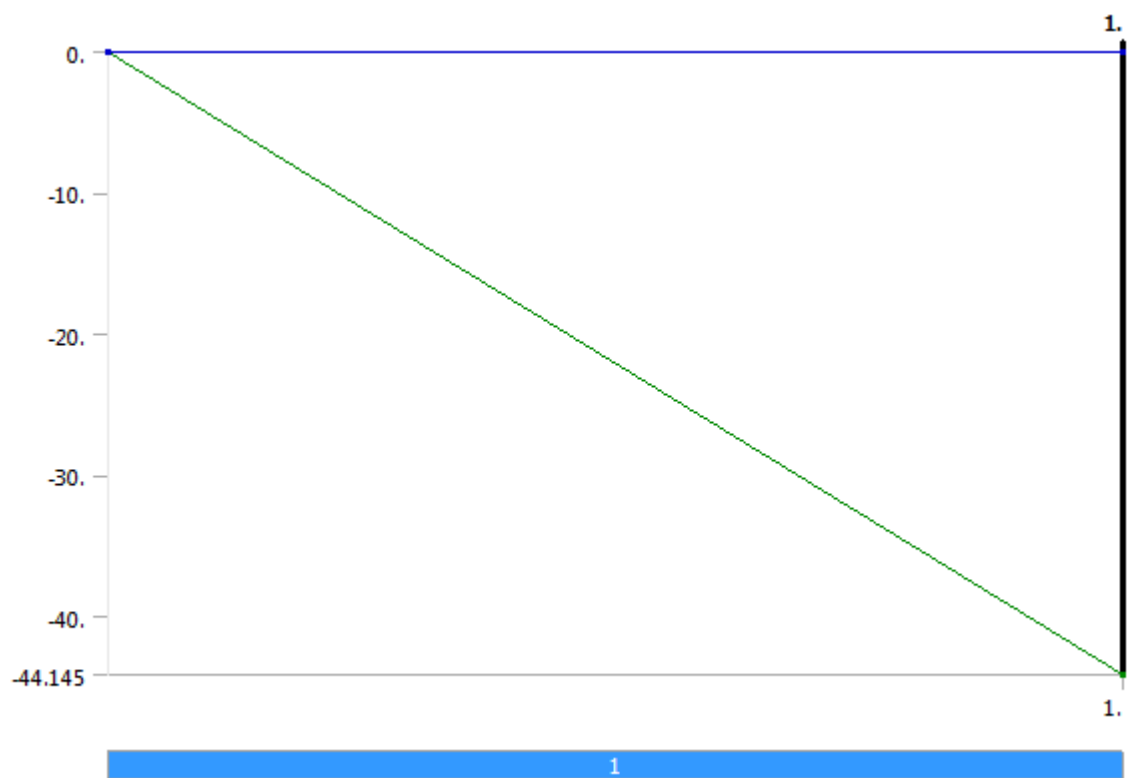


FIGURE 9
Model (J4, K4) > Static Structural (K5) > Bearing Load 5

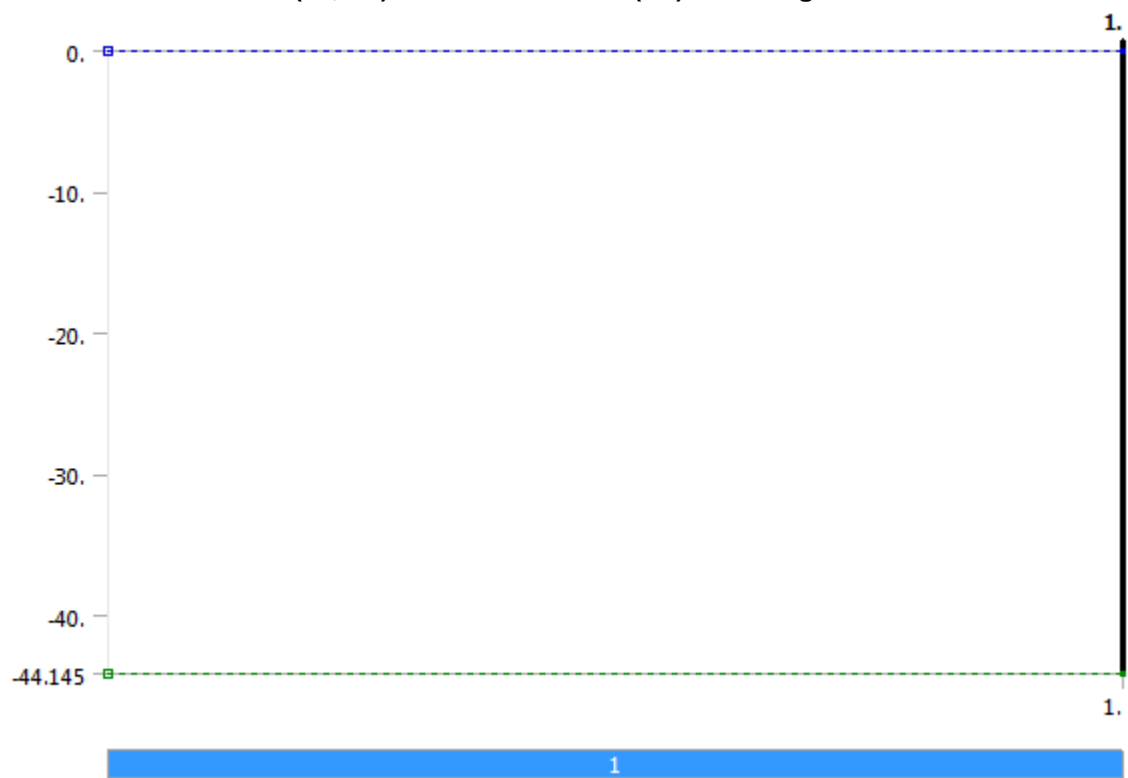


TABLE 31
Model (J4, K4) > Static Structural (K5) > Loads

Object Name	Bearing Load 6	Force 3	Force 4	Force 5
State	Fully Defined			
Scope				
Scoping Method	Geometry Selection			
Geometry	1 Face			
Definition				
ID (Beta)	408	410	412	414
Type	Bearing Load	Force		
Define By	Components			
Coordinate System	Global Coordinate System			
X Component	0. N	0. N (ramped)		
Y Component	-44.145 N	0. N (ramped)		
Z Component	0. N	34.33 N (ramped)		
Suppressed	No			

FIGURE 10
Model (J4, K4) > Static Structural (K5) > Bearing Load 6

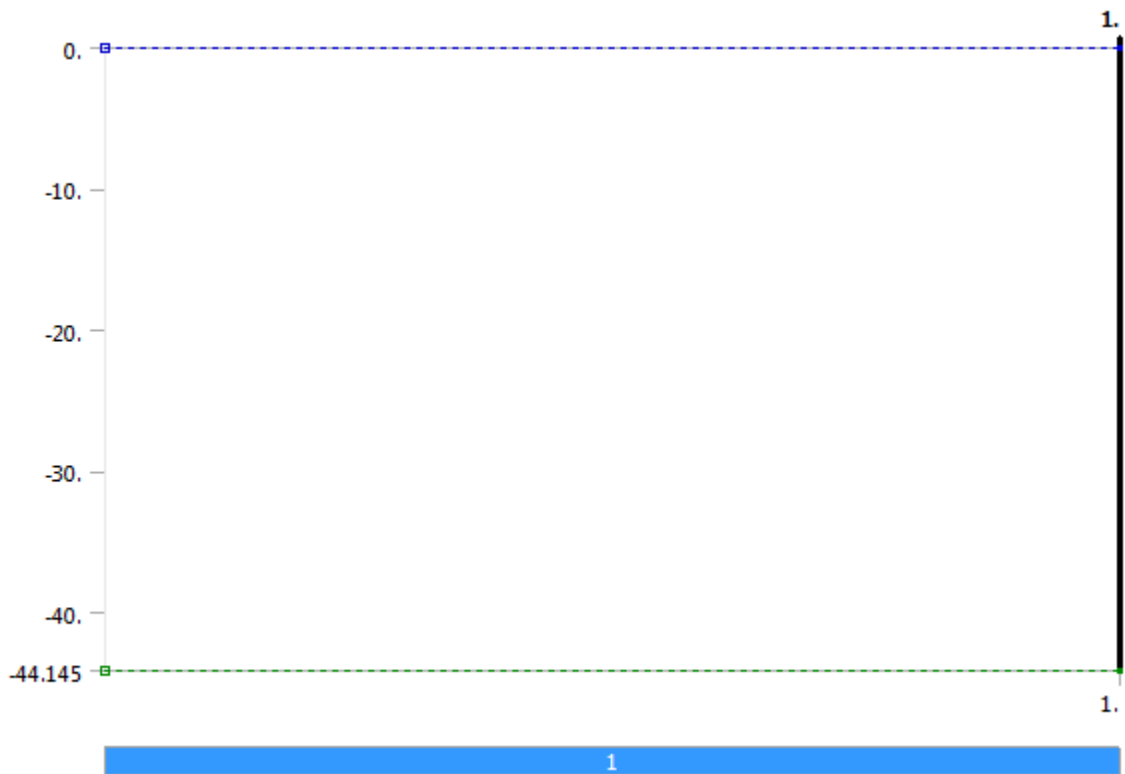


FIGURE 11
Model (J4, K4) > Static Structural (K5) > Force 3

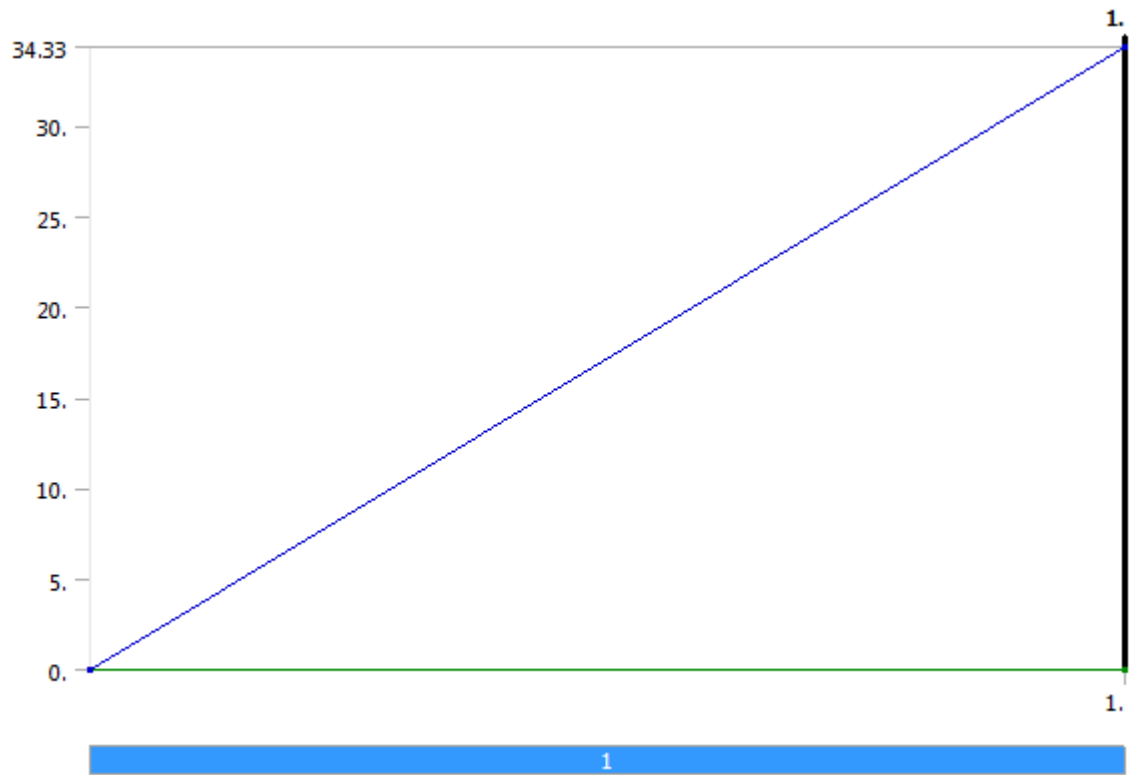


FIGURE 12
Model (J4, K4) > Static Structural (K5) > Force 4

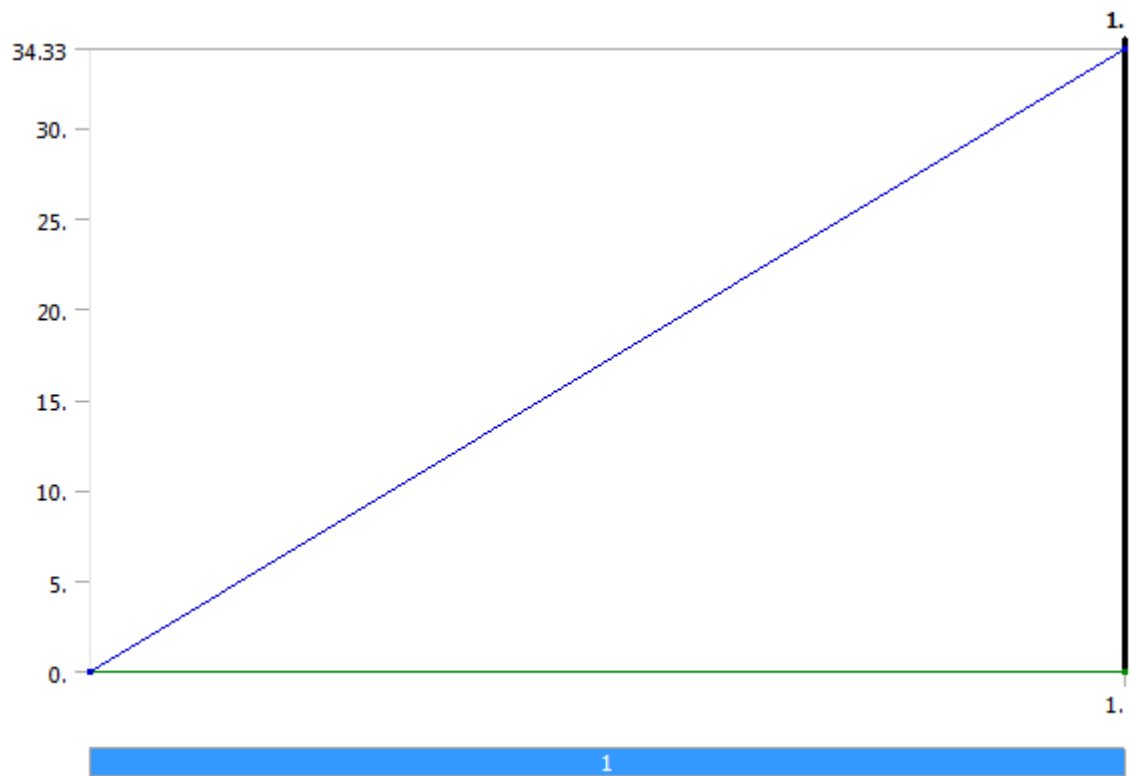
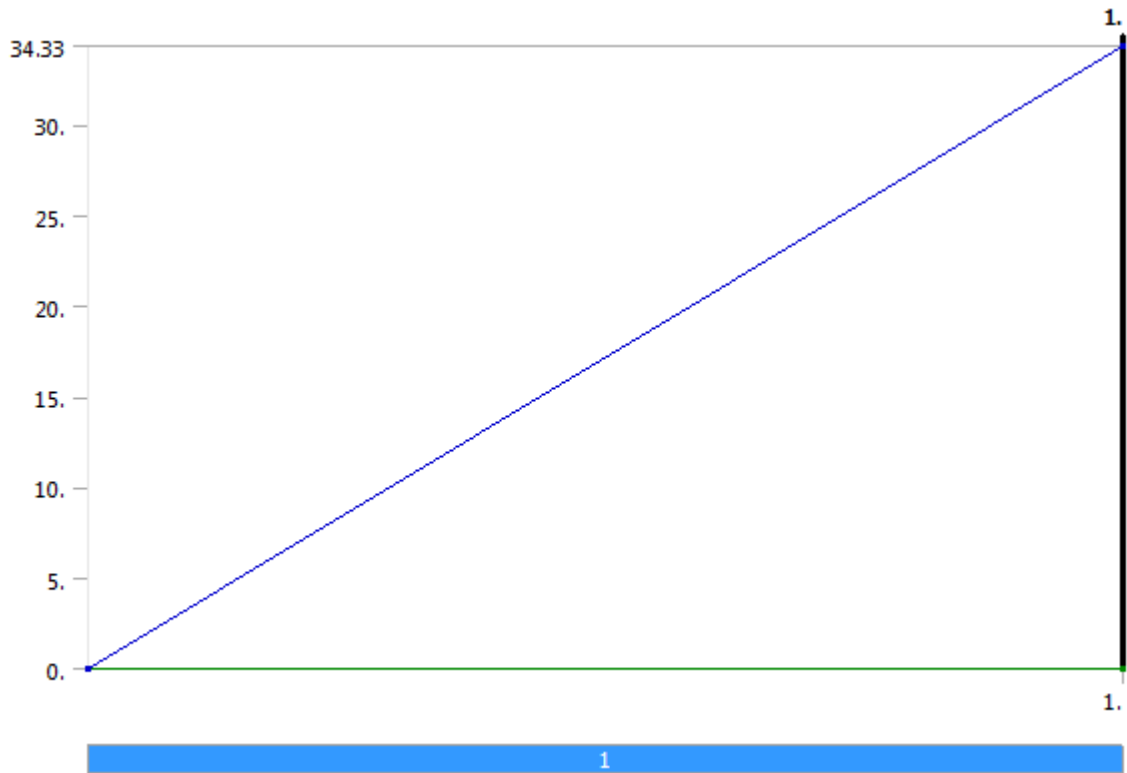


FIGURE 13
Model (J4, K4) > Static Structural (K5) > Force 5



Solution (K6)

TABLE 32
Model (J4, K4) > Static Structural (K5) > Solution

Object Name	<i>Solution (K6)</i>
State	Solved
Adaptive Mesh Refinement	
Max Refinement Loops	1.
Refinement Depth	2.
Information	
Status	Done

TABLE 33
Model (J4, K4) > Static Structural (K5) > Solution (K6) > Solution Information

Object Name	<i>Solution Information</i>
State	Solved
Solution Information	
Solution Output	Solver Output
Newton-Raphson Residuals	0
Update Interval	2.5 s
Display Points	All
FE Connection Visibility	
Activate Visibility	Yes

Display	All FE Connectors
Draw Connections Attached To	All Nodes
Line Color	Connection Type
Visible on Results	No
Line Thickness	Single
Display Type	Lines

TABLE 34
Model (J4, K4) > Static Structural (K5) > Solution (K6) > Results

Object Name	Total Deformation	Equivalent Stress	Equivalent Stress 2	Equivalent Stress 3	Equivalent Stress 4
State	Solved				
Scope					
Scoping Method	Geometry Selection				
Geometry	All Bodies		1 Body		
Definition					
Type	Total Deformation	Equivalent (von-Mises) Stress			
By	Time				
Display Time	Last				
Calculate Time History	Yes				
Identifier					
Suppressed	No				
Results					
Minimum	0. mm	1.068e-005 MPa	1.141e-003 MPa	1.1289e-003 MPa	7.3138e-005 MPa
Maximum	11.031 mm	116.09 MPa	6.2428 MPa	6.3023 MPa	1.3144 MPa
Minimum Occurs On	Solid				
Maximum Occurs On	Solid				
Information					
Time	1. s				
Load Step	1				
Substep	1				
Iteration Number	1				
Integration Point Results					
Display Option		Averaged			

TABLE 35
Model (J4, K4) > Static Structural (K5) > Solution (K6) > Results

Object Name	Equivalent Stress 5	Equivalent Stress 6	Equivalent Stress 7	Equivalent Stress 8	Equivalent Stress 9
State	Solved				
Scope					
Scoping Method	Geometry Selection				
Geometry	3 Bodies	1 Body			
Definition					
Type	Equivalent (von-Mises) Stress				

By	Time				
Display Time	Last				
Calculate Time History	Yes				
Identifier					
Suppressed	No				
Integration Point Results					
Display Option	Averaged				
Results					
Minimum	1.4085e-003 MPa	0.4684 MPa	0.1 MPa	1.6449 MPa	1.1488e-002 MPa
Maximum	75.682 MPa	116.09 MPa	34.234 MPa	101.07 MPa	17.268 MPa
Minimum Occurs On	Solid				
Maximum Occurs On	Solid				
Information					
Time	1. s				
Load Step	1				
Substep	1				
Iteration Number	1				

TABLE 36
Model (J4, K4) > Static Structural (K5) > Solution (K6) > Results

Object Name	Equivalent Stress 10	Equivalent Stress 11	Equivalent Stress 12	Equivalent Stress 13	Equivalent Stress 14
State	Solved				
Scope					
Scoping Method	Geometry Selection				
Geometry	1 Body			3 Bodies	2 Bodies
Definition					
Type	Equivalent (von-Mises) Stress				
By	Time				
Display Time	Last				
Calculate Time History	Yes				
Identifier					
Suppressed	No				
Integration Point Results					
Display Option	Averaged				
Results					
Minimum	1.0724e-002 MPa	2.7463e-003 MPa	6.9499e-004 MPa	0.1 MPa	1.1289e-003 MPa
Maximum	16.677 MPa	7.9625 MPa	2.2712 MPa	116.09 MPa	6.3023 MPa
Minimum Occurs On				Solid	
Maximum Occurs On				Solid	
Information					
Time	1. s				

Load Step	1
Substep	1
Iteration Number	1

Material Data

Structural Steel

TABLE 37
Structural Steel > Constants

Density	7.85e-006 kg mm ⁻³
Coefficient of Thermal Expansion	1.2e-005 C ⁻¹
Specific Heat	4.34e+005 mJ kg ⁻¹ C ⁻¹
Thermal Conductivity	6.05e-002 W mm ⁻¹ C ⁻¹
Resistivity	1.7e-004 ohm mm

TABLE 38
Structural Steel > Compressive Ultimate Strength

Compressive Ultimate Strength MPa
0

TABLE 39
Structural Steel > Compressive Yield Strength

Compressive Yield Strength MPa
250

TABLE 40
Structural Steel > Tensile Yield Strength

Tensile Yield Strength MPa
250

TABLE 41
Structural Steel > Tensile Ultimate Strength

Tensile Ultimate Strength MPa
460

TABLE 42
Structural Steel > Isotropic Secant Coefficient of Thermal Expansion

Reference Temperature C
22

TABLE 43
Structural Steel > Alternating Stress Mean Stress

Alternating Stress MPa	Cycles	Mean Stress MPa
3999	10	0
2827	20	0
1896	50	0
1413	100	0
1069	200	0

441	2000	0
262	10000	0
214	20000	0
138	1.e+005	0
114	2.e+005	0
86.2	1.e+006	0

TABLE 44
Structural Steel > Strain-Life Parameters

Strength Coefficient MPa	Strength Exponent	Ductility Coefficient	Ductility Exponent	Cyclic Strength Coefficient MPa	Cyclic Strain Hardening Exponent
920	-0.106	0.213	-0.47	1000	0.2

TABLE 45
Structural Steel > Isotropic Elasticity

Temperature C	Young's Modulus MPa	Poisson's Ratio	Bulk Modulus MPa	Shear Modulus MPa
	2.e+005	0.3	1.6667e+005	76923

TABLE 46
Structural Steel > Isotropic Relative Permeability

Relative Permeability
10000