

ANALISIS_BASE_MECANISMO

MESH:

Entity	Size
Nodes	973
Elements	3225

ELEMENT TYPE:

Connectivity	Statistics
TE4	3225 (100,00%)

ELEMENT QUALITY:

Criterion	Good	Poor	Bad	Worst	Average
Stretch	3225 (100,00%)	0 (0,00%)	0 (0,00%)	0,336	0,566
Aspect Ratio	3225 (100,00%)	0 (0,00%)	0 (0,00%)	4,633	2,435

Materials.1

Material	F-0222
Young's modulus	2,05e+011N_m2
Poisson's ratio	0,3
Density	7830kg_m3
Yield strength	2,5e+008N_m2
Coefficient of thermal expansion	1,17e-005_Kdeg

Static Case

Boundary Conditions

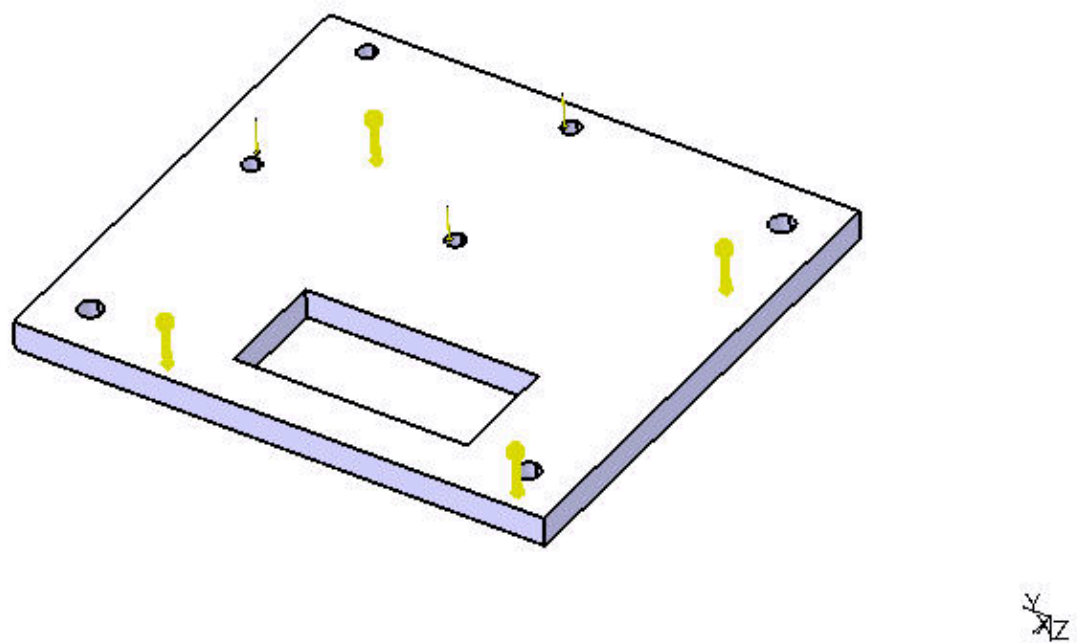


Figure 1

STRUCTURE Computation

Number of nodes	:	973
Number of elements	:	3225
Number of D.O.F.	:	2919
Number of Contact relations	:	0
Number of Kinematic relations	:	0

Linear tetrahedron : 3225

RESTRAINT Computation

Name: Restraints.1

Number of S.P.C : 975

LOAD Computation

Name: Loads.1

Applied load resultant :

Fx	=	0	.	000e+000	N
Fy	=	0	.	000e+000	N
Fz	=	9	.	239e+002	N
Mx	=	8	.	056e+001	Nxm
My	=	-2	.	166e+002	Nxm
Mz	=	0	.	000e+000	Nxm

STRUCTURAL MASS Computation

Name: StructuralMassSet.1

Number of lines	:	2919		
Number of coefficients	:	50730		
Number of blocks	:	1		
Maximum number of coefficients per bloc	:	50730		
Total matrix size	:	0	.	59 Mb

Structural mass : 2.089e+000 kg

Inertia center coordinates

Xg	:	2	.	716e+002	mm
Yg	:	5	.	272e+001	mm
Zg	:	-6	.	074e+001	mm

Inertia tensor at origin: kgxm2

1.974e-002	-3.006e-002	3.445e-002
-3.006e-002	1.664e-001	6.699e-003
3.445e-002	6.699e-003	1.707e-001

STIFFNESS Computation

Number of lines	:	2919		
Number of coefficients	:	50730		
Number of blocks	:	1		
Maximum number of coefficients per bloc	:	50730		
Total matrix size	:	0	.	59 Mb

SINGULARITY Computation

Restraint: Restraints.1

Number of local singularities : 0
Number of singularities in translation : 0
Number of singularities in rotation : 0
Generated constraint type : MPC

CONSTRAINT Computation

Restraint: Restraints.1

Number of constraints : 975
Number of coefficients : 0
Number of factorized constraints : 975
Number of coefficients : 0
Number of deferred constraints : 0

FACTORIZED Computation

Method : SPARSE
Number of factorized degrees : 1944
Number of supernodes : 326
Number of overhead indices : 10791
Number of coefficients : 98676
Maximum front width : 147
Maximum front size : 10878
Size of the factorized matrix (Mb) : 0 . 752838
Number of blocks : 1
Number of Mflops for factorization : 7 . 334e+000
Number of Mflops for solve : 4 . 044e-001
Minimum relative pivot : 4 . 193e-001

Minimum and maximum pivot

Value	Dof	Node	x (mm)	y (mm)	z (mm)
7.1015e+008	Tz	216	3.0440e+002	6.2637e+001	-6.5755e+001
1.6194e+010	Tz	712	2.2159e+002	-6.5987e+000	-6.5639e+001

Minimum pivot

Value	Dof	Node	x (mm)	y (mm)	z (mm)
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7.5586e+008	Tx	45	3.5865e+002	-3.9751e+001	-6.0584e+001
7.6202e+008	Tx	772	3.5409e+002	-2.2284e+001	-5.9924e+001
7.8484e+008	Ty	53	2.9104e+002	-3.9759e+001	-6.5584e+001
7.9136e+008	Tx	53	2.9104e+002	-3.9759e+001	-6.5584e+001
7.9984e+008	Ty	771	2.6833e+002	1.2856e+002	-6.3596e+001
8.2274e+008	Tx	755	2.4465e+002	1.7937e+001	-6.5680e+001
8.2309e+008	Tx	636	2.0360e+002	4.5404e+001	-6.5726e+001
8.3479e+008	Ty	755	2.4465e+002	1.7937e+001	-6.5680e+001
8.5025e+008	Tz	45	3.5865e+002	-3.9751e+001	-6.0584e+001

Translational pivot distribution

Value	Percentage
10.E8 --> 10.E9	1.1317e+000
10.E9 --> 10.E10	9.6091e+001
10.E10 --> 10.E11	2.7778e+000

DIRECT METHOD Computation

Name: Static Case Solution.1

Restraint: Restraints.1

Structural mass is taken into account

Load: Loads.1

Strain Energy : 2.733e-005 J

Equilibrium

Components	Applied Forces	Reactions	Residual	Relative Magnitude Error
			-1.4692e-	2.4913e-

Fx (N)	0.0000e+000	-1.4692e-014	014	016
Fy (N)	0.0000e+000	-3.7658e-014	-3.7658e-014	6.3856e-016
Fz (N)	9.2393e+002	-9.2393e+002	7.9581e-013	1.3494e-014
Mx (Nxm)	8.0561e+001	-8.0561e+001	2.8422e-014	1.3438e-015
My (Nxm)	-2.1657e+002	2.1657e+002	-5.6843e-014	2.6875e-015
Mz (Nxm)	0.0000e+000	-4.5092e-016	-4.5092e-016	2.1319e-017

Static Case Solution.1 - Deformed mesh.2

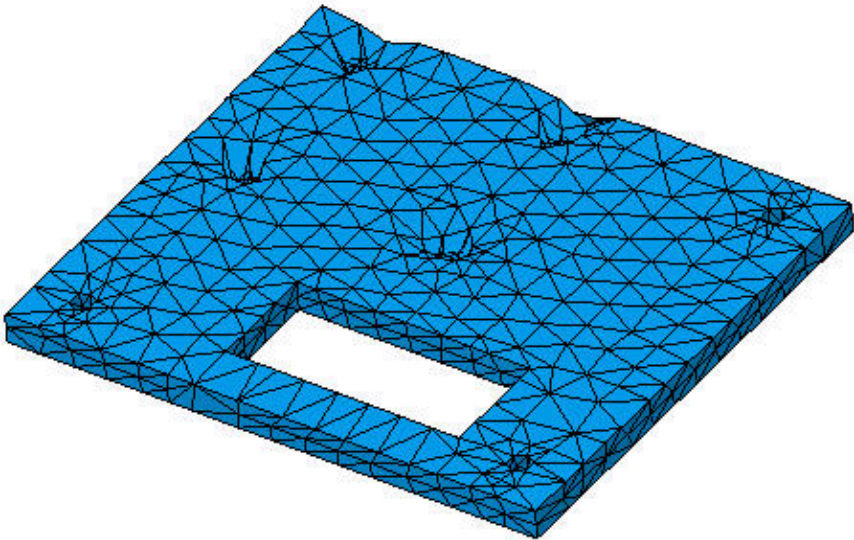


Figure 2

On deformed mesh ---- On boundary ---- Over all the model

Static Case Solution.1 - Von Mises stress (nodal values).2

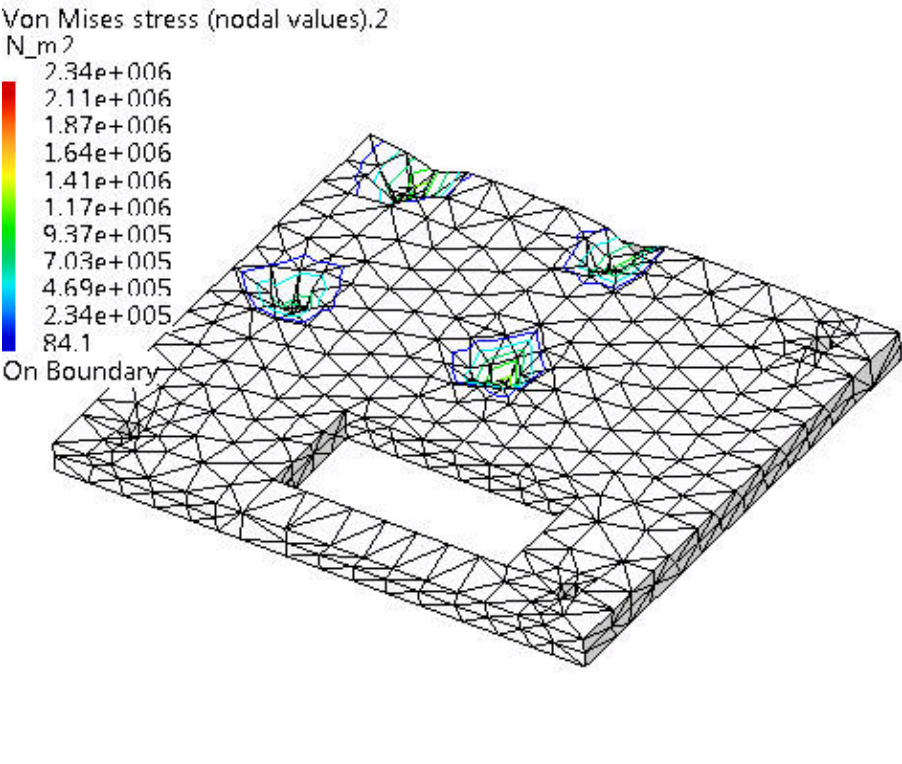


Figure 3

3D elements: : Components: : All

On deformed mesh ---- On boundary ---- Over all the model

Global Sensors

Sensor Name	Sensor Value
Energy	2,733e-005J