ANEXO 2

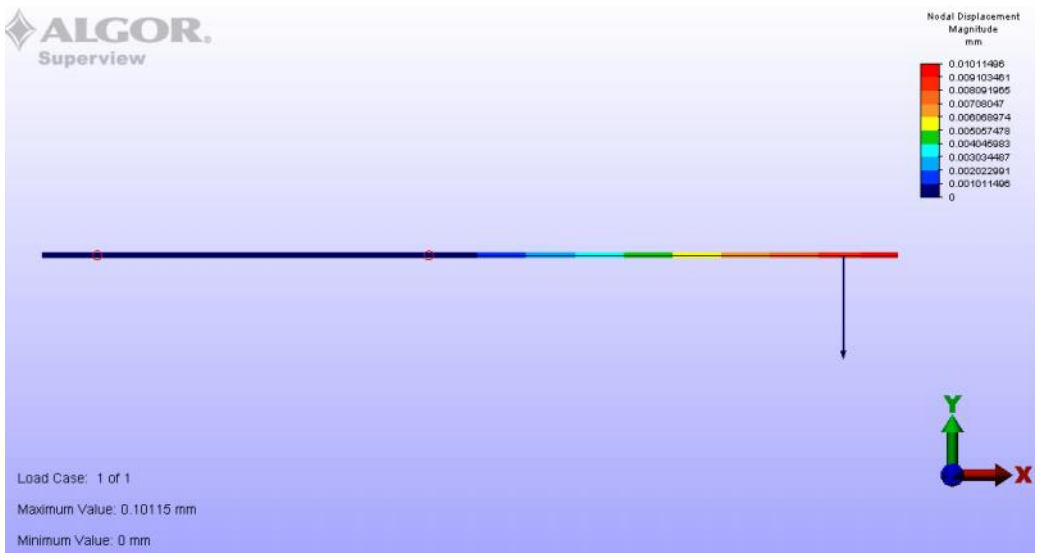
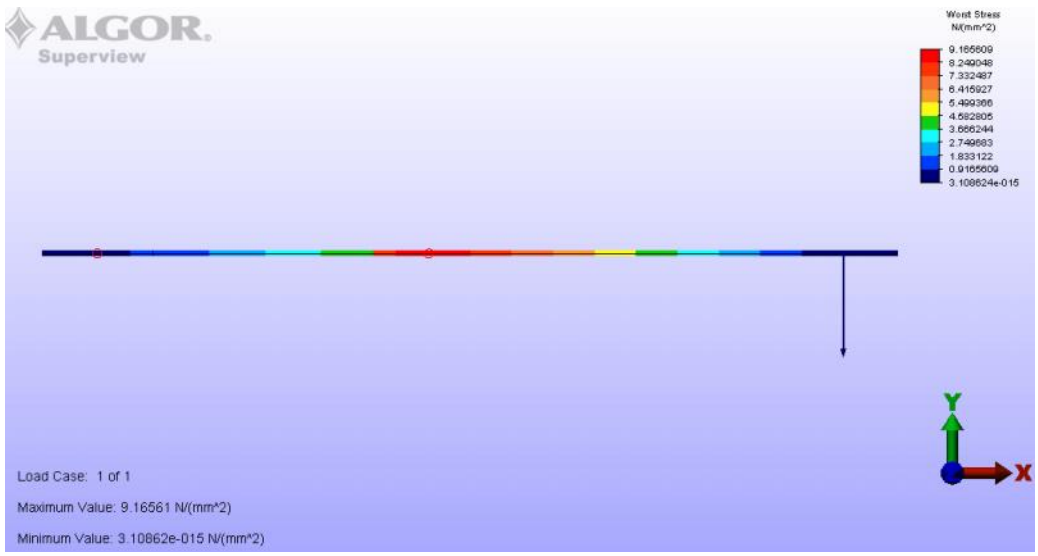
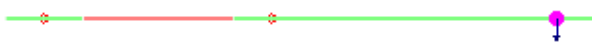


Fig. 4: Desplazamiento del eje del ventilador.



. Fig. 5: Esfuerzo del eje del ventilador.

Design Analysis



Last updated on 29/11/2007.

Project checked on 29/11/2007.

Summary

Model Information

Analysis Type - Static Stress with Linear Material Models
Units - Custom - (N, mm, s, deg C, K, V, ohm, A, J)
Model location - C:\Documents and Settings\Charly Gasco\Escritorio\ivan\ejeventilador

Analysis Parameters Information

Load Case Multipliers

Static Stress with Linear Material Models may have multiple load cases. This allows a model to be analyzed with multiple loads while solving the equations a single time. The following is a list of load case multipliers that were analyzed with this model.

Load Case	Pressure/Surface Forces	Acceleration/Gravity	Displaced Boundary	Thermal	Voltage

1	0	0	0	0	0

Multiphysics Information

Default Nodal Temperature	0 °C
Source of Nodal Temperature	None
Time step from Heat Transfer Analysis	Last

Processor Information

Type of Solver	Automatic
Disable Calculation and Output of Strains	No
Calculate Reaction Forces	Yes
Invoke Banded Solver	Yes
Avoid Bandwidth Minimization	No
Stop After Stiffness Calculations	No
Displacement Data in Output File	No
Stress Data in Output File	No
Equation Numbers Data in Output File	No
Element Input Data in Output File	No
Nodal Input Data in Output File	No
Centrifugal Load Data in Output File	No

Part Information

Part ID	Part Name	Element Type	Material Name
1	Part 1	Beam	Steel (ASTM - A36)
2	Part 2	Beam	Steel (ASTM - A36)

Element Properties used for:

- Part 1

Element Type	Beam
Stress Free Reference Temperature	0 °C

Layer 1 - Area	124.6897071
Layer 1 - SA2	110.540520478723
Layer 1 - SA3	110.540520478723
Layer 1 - J1	2474.4672373995
Layer 1 - I2	1237.23361869975
Layer 1 - I3	1237.23361869975
Layer 1 - S2	196.3862886825
Layer 1 - S3	196.3862886825

Element Properties used for:

- Part 2

Element Type	Beam
Stress Free Reference Temperature	0 °C
Layer 1 - Area	176.7144375
Layer 1 - SA2	156.66173537234
Layer 1 - SA3	156.66173537234
Layer 1 - J1	4970.0935546875
Layer 1 - I2	2485.04677734375
Layer 1 - I3	2485.04677734375
Layer 1 - S2	331.3395703125
Layer 1 - S3	331.3395703125

Material Information

Steel (ASTM - A36) - Beam

Material Model	Standard
Material Source	Algor Material Library
Material Source File	C:\Archivos de programa\ALGOR\MatLibs\algormat.mlb
Date Last Updated	2004/09/30-16:00:00
Material Description	Structural Steel
Mass Density	0.0000000078548 N*s^2/mm/mm³

Modulus of Elasticity	199950 N/mm²
Poisson's Ratio	0.29
Thermal Coefficient of Expansion	0.0000117 1/°C

Load and Constraint Information

Loads

Load Set 1: Unnamed

Nodal Forces

ID	Description	Node ID	Magnitude	Vx	Vy	Vz	Load Case	Coordinate System ID
1	Unnamed	6	-12	0	1	0	1	0

Constraints

Constraint Set 1: Unnamed

Nodal Boundary Conditions

ID	Description	Node ID	Tx	Ty	Tz	Rx	Ry	Rz
1	Unnamed	2	No	Yes	No	No	No	No
2	Unnamed	5	No	Yes	No	No	No	No