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|  | |  | | --- | | **Simulation of T00126-000-R01**  **Date: woensdag 12 december 2018 Designer: Jari Wernaart**  **Study name: Static 2**  **Analysis type: Static** | | Table of Contents  [Description 1](#_Toc532394153)  [Assumptions 2](#_Toc532394154)  [Model Information 2](#_Toc532394155)  [Study Properties 3](#_Toc532394156)  [Units 3](#_Toc532394157)  [Material Properties 4](#_Toc532394158)  [Loads and Fixtures 5](#_Toc532394159)  [Connector Definitions 6](#_Toc532394160)  [Contact Information 6](#_Toc532394161)  [Mesh information 7](#_Toc532394162)  [Sensor Details 8](#_Toc532394163)  [Resultant Forces 8](#_Toc532394164)  [Beams 8](#_Toc532394165)  [Study Results 9](#_Toc532394166)  [Conclusion 11](#_Toc532394167) | |
| Description No Data |

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| Assumptions |

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| Model Information  |  |  | | --- | --- | | |  | | --- | |  |   ****Model name:** T00126-000-R01**  ****Current Configuration:** Default** | |

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| Study Properties  |  |  | | --- | --- | | Study name | Static 2 | | Analysis type | Static | | Mesh type | Shell Mesh Using Mid-surfaces | | Thermal Effect: | On | | Thermal option | Include temperature loads | | Zero strain temperature | 298 Kelvin | | Include fluid pressure effects from SOLIDWORKS Flow Simulation | Off | | Solver type | FFEPlus | | Inplane Effect: | Off | | Soft Spring: | Off | | Inertial Relief: | Off | | Incompatible bonding options | Automatic | | Large displacement | Off | | Compute free body forces | On | | Friction | Off | | Use Adaptive Method: | Off | | Result folder | SOLIDWORKS document (F:\Google drive\LMI restore system\1. Documenten\7. CAD files\CAD LMI) | |

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| Units  |  |  | | --- | --- | | Unit system: | SI (MKS) | | Length/Displacement | mm | | Temperature | Kelvin | | Angular velocity | Rad/sec | | Pressure/Stress | N/m^2 | |

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| Material Properties  |  |  |  | | --- | --- | --- | | ****Model Reference**** | ****Properties**** | ****Components**** | |  | |  |  | | --- | --- | | ****Name:**** | **Alloy Steel** | | ****Model type:**** | **Linear Elastic Isotropic** | | ****Default failure criterion:**** | **Max von Mises Stress** | | ****Yield strength:**** | **6.20422e+08 N/m^2** | | ****Tensile strength:**** | **7.23826e+08 N/m^2** | | ****Elastic modulus:**** | **2.1e+11 N/m^2** | | ****Poisson's ratio:**** | **0.28** | | ****Mass density:**** | **7700 kg/m^3** | | ****Shear modulus:**** | **7.9e+10 N/m^2** | | ****Thermal expansion coefficient:**** | **1.3e-05 /Kelvin** | | **SolidBody 1(Body-Move/Copy1)(T00126-000-R01)** | | **Curve Data:N/A** | | | |

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| **Loads and Fixtures**  | ****Fixture name**** | ****Fixture Image**** | ****Fixture Details**** | | --- | --- | --- | | **Fixed-1** |  | |  |  | | --- | --- | | Entities: | **1 face(s)** | | Type: | **Fixed Geometry** | | | ****Resultant Forces****   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Components** | **X** | **Y** | **Z** | **Resultant** | | **Reaction force(N)** | **-0.0425277** | **48.854** | **-0.00805473** | **48.854** | | **Reaction Moment(N.m)** | **5.58896** | **0.000318305** | **0.00770636** | **5.58896** | | | |  | ****Load name**** | ****Load Image**** | ****Load Details**** | | --- | --- | --- | | **Force-2** |  | |  |  | | --- | --- | | Entities: | **1 edge(s)** | | Reference: | **Face< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, -87.2 N** | | Moments: | **---, ---, --- N.m** | | | **Force-3** |  | |  |  | | --- | --- | | Entities: | **1 edge(s)** | | Reference: | **Face< 1 >** | | Type: | **Apply force** | | Values: | **---, ---, 87.2 N** | | Moments: | **---, ---, --- N.m** | | | **Force-4** |  | |  |  | | --- | --- | | Entities: | **1 face(s)** | | Type: | **Apply normal force** | | Value: | **49.05 N** | | |

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| Connector Definitions No Data |

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| Contact Information No Data |

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| Mesh information  |  |  | | --- | --- | | Mesh type | Shell Mesh Using Mid-surfaces | | Mesher Used: | Standard mesh | | Automatic Transition: | Off | | Include Mesh Auto Loops: | Off | | Jacobian points | 4 Points | | Element Size | 1.9994 mm | | Tolerance | 0.0999699 mm | | Mesh Quality Plot | High |  Mesh information - Details  |  |  | | --- | --- | | Total Nodes | 9826 | | Total Elements | 4738 | | Time to complete mesh(hh;mm;ss): | 00:00:03 | | Computer name: |  | |  | | |

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| Sensor Details No Data |

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| Resultant ForcesReaction forces  | Selection set | Units | Sum X | Sum Y | Sum Z | Resultant | | --- | --- | --- | --- | --- | --- | | Entire Model | N | -0.0425277 | 48.854 | -0.00805473 | 48.854 |  Reaction Moments  | Selection set | Units | Sum X | Sum Y | Sum Z | Resultant | | --- | --- | --- | --- | --- | --- | | Entire Model | N.m | 5.58896 | 0.000318305 | 0.00770636 | 5.58896 | |
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| Beams No Data |

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| Study Results  | Name | Type | Min | Max | | --- | --- | --- | --- | | Stress1 | VON: von Mises Stress | 0.000e+00 N/m^2  Node: 2207 | 2.911e+08 N/m^2  Node: 925 | | **T00126-000-R01-Static 2-Stress-Stress1** | | | |  | Name | Type | Min | Max | | --- | --- | --- | --- | | Displacement1 | URES: Resultant Displacement | 0.000e+00 mm  Node: 2134 | 8.171e-01 mm  Node: 1373 | | **T00126-000-R01-Static 2-Displacement-Displacement1** | | | |  | Name | Type | Min | Max | | --- | --- | --- | --- | | Strain1 | ESTRN: Equivalent Strain | 0.000e+00  Element: 4131 | 7.999e-04  Element: 2136 | | **T00126-000-R01-Static 2-Strain-Strain1** | | | | |

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| Conclusion |