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|  | |  | | --- | | **Simulation of Across Mount**  **Date: Monday, June 16, 2014 Designer: Solidworks**  **Study name: SimulationXpress Study**  **Analysis type: Static** | | Table of Contents  [Description 1](#_Toc390709984)  [Assumptions 2](#_Toc390709985)  [Model Information 2](#_Toc390709986)  [Material Properties 3](#_Toc390709987)  [Loads and Fixtures 4](#_Toc390709988)  [Mesh Information 5](#_Toc390709989)  [Study Results 7](#_Toc390709990)  [Conclusion 10](#_Toc390709991) | |
| Description June\_16\_2014  Panel Mount loaded from one side plate |

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| Assumptions |

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| Model Information  |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | |  |   ****Model name:** Across Mount**  ****Current Configuration:** Default** | | | | | ****Solid Bodies**** | | | | | ****Document Name and Reference**** | ****Treated As**** | ****Volumetric Properties**** | ****Document Path/Date Modified**** | | **#8 (0.199) Diameter Hole2** | **Solid Body** | ****Mass:1.42696 kg****  ****Volume:0.00018532 m^3****  ****Density:7700 kg/m^3****  ****Weight:13.9842 N**** | ****C:\Users\sfalcone\Desktop\GitHub\tinyPipes\mechanics\Panel Mount\sfalcone\Simple Mount\Across Mount.SLDPRT****  **Jun 16 19:05:04 2014** | |

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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:**** | **620.422 N/mm^2** | | ****Tensile strength:**** | **723.826 N/mm^2** | | **SolidBody 1(#8 (#8 (0.199) Diameter Hole2)(Across Mount)** | |

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| **Loads and Fixtures**  | ****Fixture name**** | ****Fixture Image**** | ****Fixture Details**** | | --- | --- | --- | | **Fixed-1** |  | |  |  | | --- | --- | | Entities: | **1 face(s)** | | Type: | **Fixed Geometry** | |  | ****Load name**** | ****Load Image**** | ****Load Details**** | | --- | --- | --- | | **Force-1** |  | |  |  | | --- | --- | | Entities: | **1 face(s)** | | Type: | **Apply normal force** | | Value: | **2450 N** | | |

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| Mesh Information  |  |  | | --- | --- | | Mesh type | Solid Mesh | | Mesher Used: | Standard mesh | | Automatic Transition: | Off | | Include Mesh Auto Loops: | Off | | Jacobian points | 4 Points | | Element Size | 5.61877 mm | | Tolerance | 0.280939 mm | | Mesh Quality | High |  Mesh Information - Details  |  |  | | --- | --- | | Total Nodes | 23903 | | Total Elements | 12139 | | Maximum Aspect Ratio | 6.0273 | | % of elements with Aspect Ratio < 3 | 98.3 | | % of elements with Aspect Ratio > 10 | 0 | | % of distorted elements(Jacobian) | 0 | | Time to complete mesh(hh;mm;ss): | 00:00:08 | | Computer name: | SFALCONE-THINK | |  | | |

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| Study Results  | Name | Type | Min | Max | | --- | --- | --- | --- | | Stress | VON: von Mises Stress | 2.00225e-007 N/mm^2 (MPa)  Node: 10246 | 307.067 N/mm^2 (MPa)  Node: 1005 | | **Across Mount-SimulationXpress Study-Stress-Stress** | | | |  | Name | Type | Min | Max | | --- | --- | --- | --- | | Displacement | URES: Resultant Displacement | 0 mm  Node: 61 | 1.9326 mm  Node: 2982 | | **Across Mount-SimulationXpress Study-Displacement-Displacement** | | | |  | Name | Type | | --- | --- | | Deformation | Deformed Shape | | **Across Mount-SimulationXpress Study-Displacement-Deformation** | |  | Name | Type | Min | Max | | --- | --- | --- | --- | | Factor of Safety | Max von Mises Stress | 2.02048  Node: 1005 | 3.09863e+009  Node: 10246 | | **Across Mount-SimulationXpress Study-Factor of Safety-Factor of Safety** | | | | |

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| Conclusion |