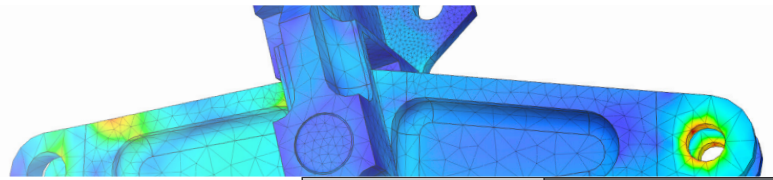


# Simulation Capabilities



|                           |   | Fusion Subscription               | Fusion PLUS Simulation Extension Subscription (monthly/annual terms) |
|---------------------------|---|-----------------------------------|--|
| 3D Simulation Study Types | <b>Static Stress</b><br>Inspect a range of load conditions and the resultant stress, strain, and deformation results analyzed to determine the likelihood of failure of the design.<br><small>Looking for more advanced finite element analysis (FEA) simulation capabilities? See <a href="#">Autodesk@ Inventor@ Nastran@</a></small>   | ✓                                 | ✓  |
|                           | <b>Modal Frequencies</b><br>Inspect the effects of natural free-vibration on your part or assembly to help you fine tune your design.<br><small>Looking for more advanced finite element analysis (FEA) simulation capabilities? See <a href="#">Autodesk@ Inventor@ Nastran@</a></small>   | -<br>(3 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Thermal Steady State</b><br>Trace heat transfer across your part or assembly to understand if your part may fail based on the maximum critical temperature of a component.<br><small>Looking for more advanced thermal simulation capabilities? See <a href="#">Autodesk@ CFD</a></small>  | -<br>(3 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Thermal Stress</b><br>Simulate temperature-induced stresses caused by temperature gradients in the model and varying thermal expansion characteristics of the materials.<br><small>Looking for more advanced thermal simulation capabilities? See <a href="#">Autodesk@ CFD</a></small>  | -<br>(3 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Shape Optimization</b><br>Achieve light weight design goals by identifying material can be removed from your design, while still achieving allowable stress and displacement objectives.<br><small>Interested in optimizing designs even more? See <a href="#">Autodesk Fusion 360@ Generative Design Extension</a></small>  | -<br>(3 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Nonlinear Static Stress</b><br>Explore large deformation, motion, contact and load changes, and nonlinear material behavior during an event or an incremental change in loads.<br><small>Looking for more advanced finite element analysis (FEA) simulation capabilities? See <a href="#">Autodesk@ Inventor@ Nastran@</a></small>   | -<br>(6 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Quasi-Static Event Simulation</b><br>Utilize explicit dynamics algorithms to solve highly nonlinear simulations that often do not run successfully with an implicit solver using Newton's method.<br><small>Looking for more advanced finite element analysis (FEA) simulation capabilities? See <a href="#">Autodesk@ Inventor@ Nastran@</a></small>  | -<br>(6 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Dynamic Event Simulation</b><br>Analyze impact-forming operations and many other dynamic events with fully dynamic analysis tool that takes into account mass, velocity, acceleration, inertia, and damping effects.<br><small>Looking for more advanced finite element analysis (FEA) simulation capabilities? See <a href="#">Autodesk@ Inventor@ Nastran@</a></small>                                   | -<br>(6 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Structural Buckling</b><br>Determine the critical buckling multiplier and modal buckling shape from a compression load applied to your structural component to develop a support or stiffening structure to prevent structure failure due to buckling.<br><small>Looking for more advanced finite element analysis (FEA) simulation capabilities? See <a href="#">Autodesk@ Inventor@ Nastran@</a></small> | -<br>(6 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Injection Molding Simulation</b><br>Identify how your part design influences part manufacturability and part quality for plastic injection molded parts through guided results to get an aesthetically acceptable part that will perform as intended.<br><small>Looking for more advanced injection molding simulation capabilities? See <a href="#">Autodesk@ Moldflow@</a></small>                       | -<br>(6 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Electronic Cooling Simulation</b><br>Predict the temperature that components on an electronics board are likely to reach to help you determine whether PCB components are at risk of failure due to overheating.   | -<br>(6 TOKENS PER CLOUD SOLVE)*  | ✓  |
|                           | <b>Generative Design</b><br>Create multiple designs that meet your geometric, performance, and manufacturing requirements, then explore the designs to select the optimal one for manufacture.  | -<br>(11 TOKENS PER CLOUD SOLVE)* | ✓  |

\* Cloud simulation token amounts shown are current as of July 2024. For the most up-to-date information on solving options and costs, please visit [Autodesk Fusion Help Documents - Cloud credits for Fusion simulation studies](#).

For more information on Fusion visit [www.autodesk.com/fusion](http://www.autodesk.com/fusion)  
 To learn more about the Simulation Extension visit [www.autodesk.com/products/fusion-360/simulation-extension](http://www.autodesk.com/products/fusion-360/simulation-extension)  
 For current pricing options visit <https://www.autodesk.com/products/fusion-360/extensions>