CLICK2 CAST™
solidThinking®

Click2Cast is a casting process simulation software that allows the user to enhance and optimize their manufactured components.

Product Highlights

- Guided casting process simulation software with innovative user experience

- Identify casting defects such as air entrapment, cold shuts, turbulence, and shrinkage porosity in just a few clicks

- Visualize flow front, solid fraction, solidification modulus, temperature/ velocity profiles and more

- Simulate high/low pressure, gravity, sand, and permanent mold castings

- Optimize "ingate" design and location

Learn more:
altairhyperworks.com/click2cast

Benefits

Click2Cast® helps users avoid typical casting defects such as air entrapment, porosity, cold shots, and more. Thanks to the simple and quick mold filling and solidification simulation. Click2Cast offers an innovative user experience allowing the complete simulation to be done in 5 simple steps and through a completely user-friendly interface designed for beginners and experts alike.

Design better products
- Quickly evaluate 'Castability'
- Visualize solidification to optimize ingate location
- Simulate casting with auto-generation of risers
- Guide manufacturing engineers to refine process

Increase Manufacturing Quality and Profitability
- Quickly evaluate casting complexity for quoting

- Predict common casting defects upfront
- Optimize running and feeding systems
- Avoid expensive trial and error

Minimal Training with Maximum Benefit
Casting simulation usually requires hours of training coupled with extensive expertise, adding cost both in training and hiring experts. Click2Cast eliminates such expensive investments by focusing on the ease of use and keeping all complexities in the background.

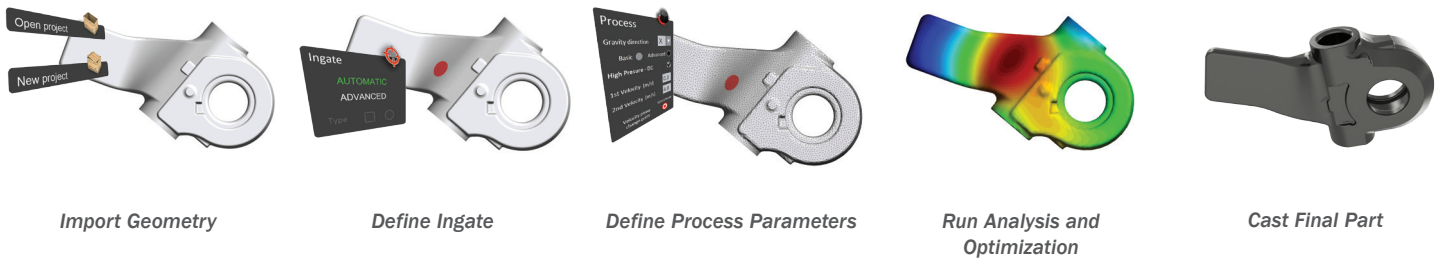## Features

Ease of Use with 5 Simple Steps
- Import Geometry
- Define Ingate
- Define Process Parameters
- Run Analysis, Optimize, and Cast Final Part

Ease Templates to Simulate
- High Pressure Die Casting
- Low Pressure Die Casting
- Gravity Sand Casting
- Permanent Mold Casting

| Import Geometry | Define Ingate | Define Process Parameters | Run Analysis and Optimization | Cast Final Part |

Optimize Ingate Design and Position

Click2Cast allows quick and simple ingate simulation - simply select the size and position and Click2Cast will auto-generate the ingate.

Validate Full Casting Designs

Click2Cast allows users to validate full casting designs including cavities, runners and overflows.

Finite Element Based Formulation

Click2Cast is Finite Element based formulation. Typical challenges of meshing the domain are overcome by integrating with the Altair suite of meshing applications, bringing the accuracy of FEM to the world of casting flow and solidification computations. This provides an extremely accurate and fast solution for both fluid flow and solidification calculations.

C2C solver uses parallel processing, which enables a significant reduction in calculation time. Since Click2Cast uses a biphasic air-metal model for computation, the effect of air when filling the mold is better captured to predict the air entrapment.

Results Analysis

- Flow Front
- Temperature
- Velocities
- Cold Shuts
- Air Entrapment
- Mold Erosion
- Filling Time
- Solid Fraction
- Solidification Time
- Shrinkage Porosity

"Click2Cast is extremely easy to learn, as it guides you through the set-up process. With minimal knowledge of castings, you can generate meaningful data your first day. We use it to quickly evaluate castings for porosity and other defects as part of our quoting process. As we proceed with the projects into production we use Click2Cast to help optimize the design and location of gates and runners." - **Steve Fetsko**

Sample set of detailed Contours and Vectors from Casting Simulation

Flow Front – Percentage of filling

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