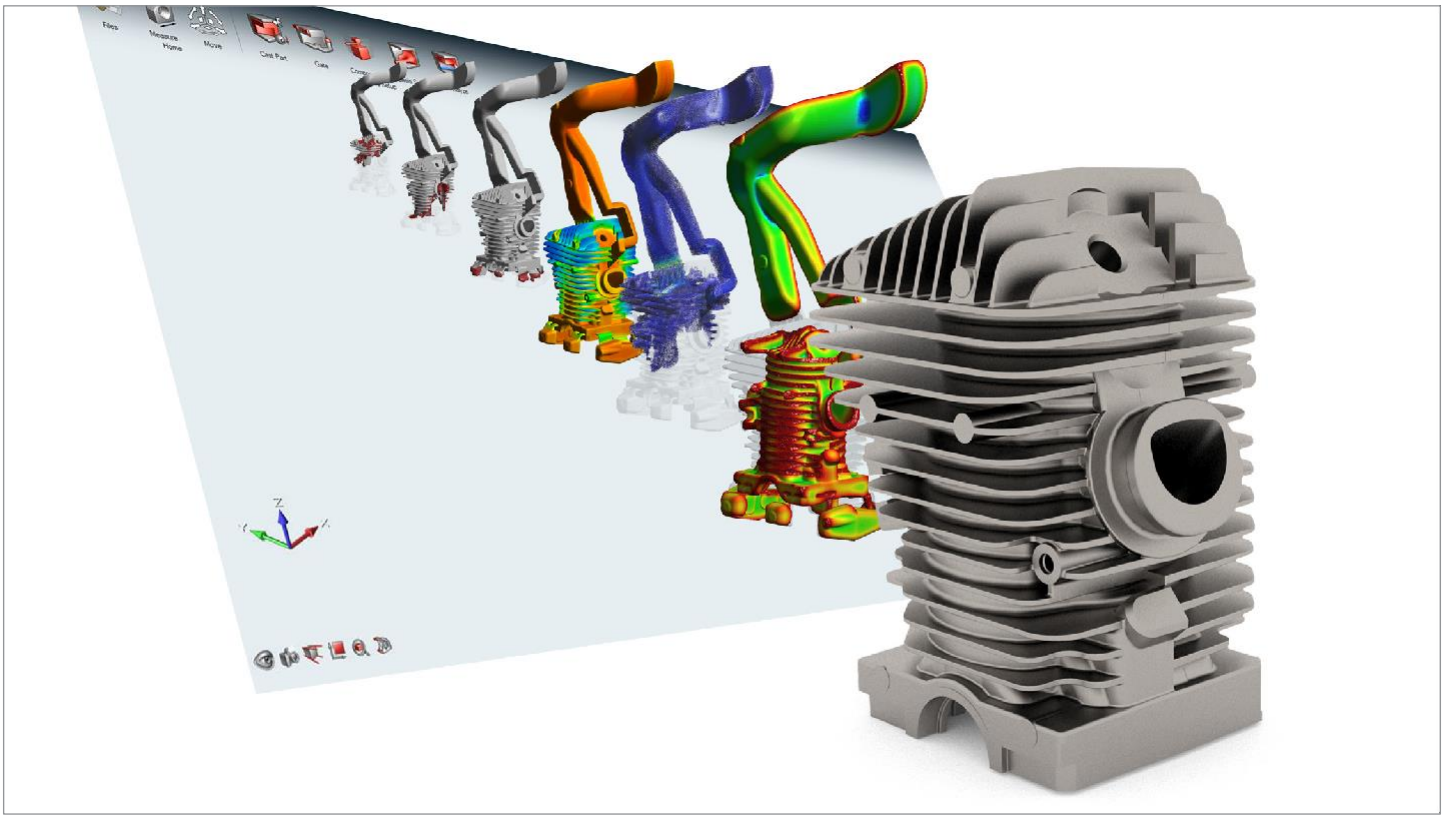
Altair Inspire Cast

5-step Casting Simulation Software



Altair Inspire Cast was developed with its end users in mind. We strive to make casting simulation as easy as possible by using 'foundryman's language' in our software. Every word in the interface comes from the casting process world. Not only is the software incredibly easy to use, it is also highly accurate and powerful. Get started with Inspire Cast today to further investigate and explore your casting process with just a few clicks.

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:
altair.com/inspire-cast

Benefits

Inspire Cast helps users avoid typical casting defects such as air entrapment, porosity, cold shots, and more, using its simple and quick mold filling and solidification simulation. Inspire Cast offers an innovative user experience allowing the complete simulation to be done in five 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. Inspire Cast eliminates such expensive investments by focusing on the ease of use and keeping all complexities in the background.

Ease of Use with Five Simple Steps

- Import Geometry
- Define Ingate
- Define Process Parameters
- Run Analysis and Optimize
- Cast Final Part

Import geometry

Define ingate

Setup

Run analysis and optimization

Cast final part

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

Capabilities

Optimize Ingate Design and Position Inspire Cast allows quick and simple ingate simulation - simply select the size and position and Inspire Cast will auto-generate the ingate.

Validate Full Casting Designs
Inspire Cast allows users to validate full casting designs including cavities, risers, chillers, cooling lines, runners, and overflows.

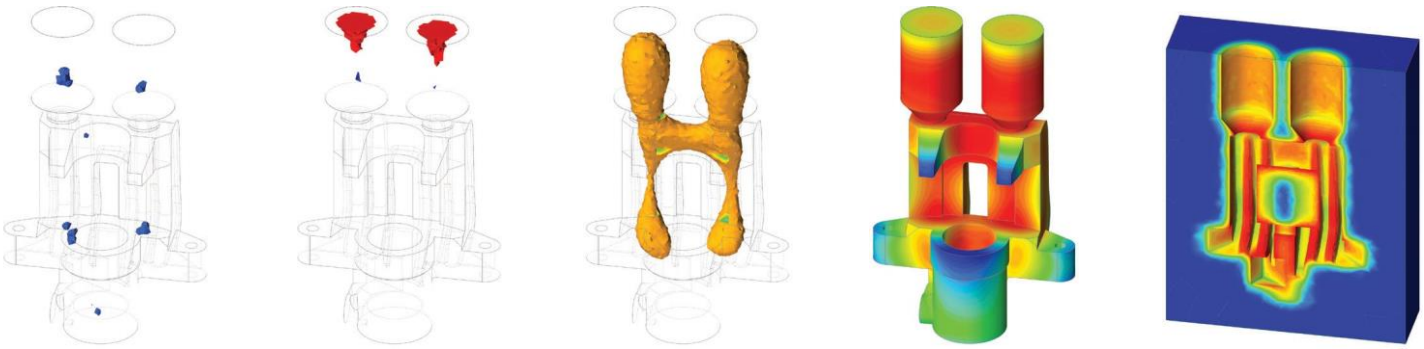
Finite Element Based Formulation Inspire Cast uses Finite Element based formulation. Typical challenges of meshing the domain are overcome by integrating with the Altair suite of meshing applications, bringing the accuracy of FEM to the world of casting flow and solidification computations.
This provides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

Inspire Cast's solver uses parallel processing, which enables a significant reduction in calculation time. Since Altair Inspire Cast 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

"Inspire Cast 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 Altair Inspire Cast to help optimize the design and location of gates and runners."

Steve Fetsko



Powerful result visualization

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