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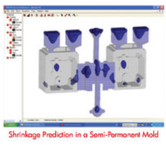
THE WORLD'S MOST POPULAR PC-BASED SOLIDIFICATION MODELING SYSTEM FROM FINITE SOLUTIONS

In today's competitive world, casting producers must find ways to improve quality reduce lead times and cut costs in order to succeed. Foundries relying on the traditional trial-and-error methods of the past to design casting processes are finding it more and more difficult to compete. Customers will no longer accept high levels of scrap or long lead times. Casting simulation is a new technology that allows you to design your casting process on the computer, before making expensive molds or patterns and before producing scrap parts.

A Single Feeding Zone in a Ductile Iron Casting Analyzed with the Riser Design Wizard

SOLIDCAST

Simulates solidification of various materials or alloy castings

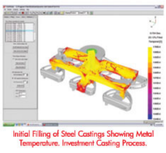


Shrinkage Prediction in a Semi-Permanent Mold

SOLIDCast simulates castings poured in gray iron, ductile iron, steel, aluminum, copper-base, magnesium, nickel-based and almost any other alloy. A database of several hundred alloys, with all pertinent properties, is included.

With SOLIDCast you can simulate processes such as green sand, chemically-bonded sand, investment and permanent mold. You can use sleeves (insulating or exothermic), chills, hot topping, cooling channels, heating elements and just about anything else that is used in the metal casting process.

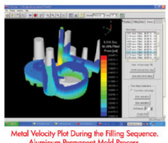
SOLIDCast now contains the new Riser Design Wizard and Gating Design Wizard. These tools allow you rig new castings in just a few minutes from a 3D CAD model, using actual process data, not guesses based on simple geometry.



Initial Filling of Steel Castings Showing Metal Temperature. Investment Casting Process.

FLOWCAST

Simulates flow of molten material through gating systems and casting cavity in the mold



Metal Velocity Plot During the Filling Sequence. Aluminum Permanent Mold Process.

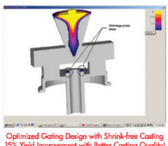
Fluid flow modeling lets you see how molten metal will move through gating systems and fill the mold. FLOWCast models convection, conduction and radiation in the mold cavity, so you can analyze your casting and gating design to predict and minimize flow-related defects such as misrun due to premature solidification, or oxide formation or mold erosion due to excessive velocities during filling.

FLOWCast is a full-featured CFD (Computational Fluid Dynamics) simulation, based on the Navier-Stokes equations for fluid flow. With FLOWCast, you can view progressive temperature, fluid velocity and fluid pressure during the fill, from any angle of view. You can even run multiple simulations at the same time on multi-processor machines! Multiply your payback with SOLIDCast and FLOWCast.

Original Gating Design with Shrinkage-prone Areas

OPTICAST

Helps to derive influencing process parameters to get sound castings:



Optimized Gating Design with Shrink-free Casting 15% Yield Improvement with Better Casting Quality!

OPTICast actually automates the simulation process! Start with an initial design for a casting, with gating and risering, typically created in the SOLIDCast modeling system, using the Gating and Riser Design Wizards™.

Users can select the design variables in their process also specify the constraints to achieve the objective function.The optimization run consists of series of simulations in which the design conditions are varied under the control of HyperOpt,model changes are made and simulation results are evaluated, all completely automatically, until the desired result is achieved.

Using Opticast,the foundry engineer can start with an initial design and allow the computer to do the work of modifying the design and running simulations to achieved an optimum result.

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THE WORLD LEADER IN PRODUCT DESIGN AND PRODUCT LIFE CYCLE MANAGEMENT SOLUTIONS

As the world leader in product design and Product Life Cycle Management solutions software solutions powered by 3D, Dassault systemes applications and services enable businesses of all sizes in all industries around the world to digitally define products, from the simplest to the most complex.

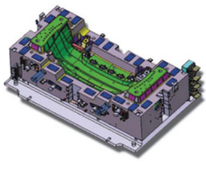
CATIA

Open, scalable, and easy to deploy, CATIA addresses the complete product development process from product concept specification through product-in-service and facilitates true collaborative engineering across disciplines, including style and shape design, mechanical design, equipment and systems engineering, digital mock-ups, machining, analysis, and simulation.

CATIA for Mold & Die is a Proven Solution:

CATIA for Mold & Die ensures standardization by capturing, sharing, and re-using company rules, know-how, and expertise. Companies can answer bids more quickly and accurately by linking design and manufacturing systems to get information faster. Standardization embeds engineering design rules in design definition and provides pre-defined standards and customized components which save time and reduce costs.

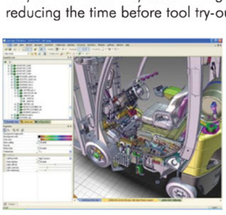
NC Manufacturing



The complete process from NC programming to machining simulation is optimized to significantly reduce overall manufacturing process time. Interaction between the Design and the NC Programming departments is also key to manufacture the right part on time. This speeds the propagation of design changes and promotes design standardization in order to reduce repetitive programming tasks.

Reverse Engineering

Enabling efficient loop backs from the physical to virtual worlds, Reverse Engineering allows designers to reconstruct 3D geometry from heavy clouds of points with the appropriate level of detail and quality. Reverse Engineering always controls the accuracy of the models by determining the actual differences between the manufactured prototypes and virtual specifications, thus reducing the time before tool try-out.

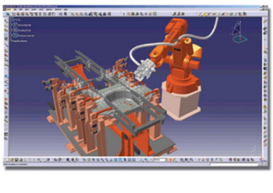


3dvia

3DVIA empowers users to create and publish professional quality, lifelike 3D applications and experiences. The integrated suite of 3D authoring tools and software provides users with access to cutting-edge technology, a large marketplace of high quality 3D models and 3D content, and a rapidly growing community of 3D professionals.

DELMIA

DELMIA, Digital Manufacturing Solutions allow manufacturers in any industry to virtually define, plan, create, monitor and control all production processes. From early process planning and assembly simulation to a complete definition of the production facility and equipment, DELMIA assists companies to achieve maximum production efficiency, lower cost, improve quality and reduce time to market.



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