



J. WALTER MILLER COMPANY

Paris, France – April 22, 2010

ESI is the pioneer and world-leading solution provider in virtual prototyping.

Market Data

Listed in compartment C of NYSE Euronext Paris

[ISIN FR 0004110310](#)

Contacts

[ESI Group](#)

Elise Lavoué

T: +33 (0)1 41 73 58 46

[elise.lavoue@esi-](mailto:elise.lavoue@esi-group.com)

group.com

Visit our Press Room

www.esi-group.com

Connect with ESI



J. Walter Miller Company choose ESI's casting simulation software to make a profound technological evolution

Complex castings fully reconfigured with the help of QuikCAST

J. Walter Miller Company selected **QuikCAST**, **ESI**'s casting simulation software, to fully reconfigure its complex castings in a minimum period of time and at a minimum cost during its technological transition from manual green sand squeeze molding to fully automated molding machines.

J. Walter Miller Company (JWMC) produces brass and bronze castings for the fire protection, pumping and valve industries. Both leaded and non-leaded alloys are poured on a daily basis and give **JWMC** a unique mix of capabilities. Historically, **JWMC** has specialized in small castings but is growing into larger sizes with the recent acquisition of the DISA Match 130, a match plate molding machine. As a result, each squeezer pattern needs to be converted to run on the new equipment.

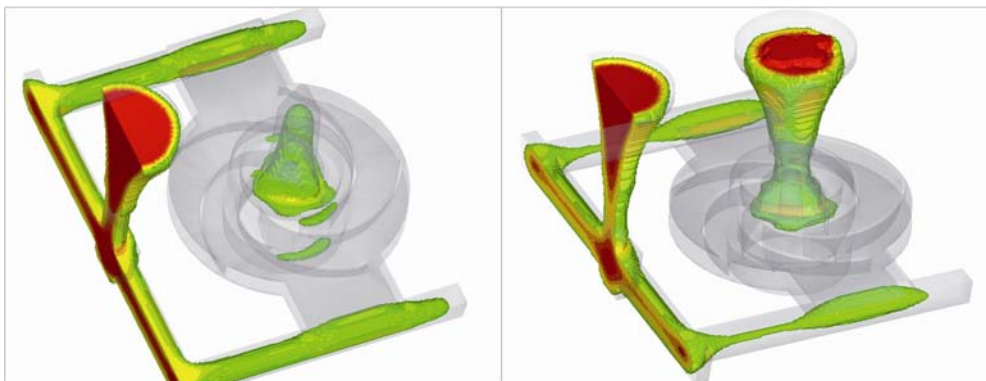
For a foundry producing non-leaded pump components, impellers are a main challenge because of the heavy and thin sections of the casting. Indeed, **JWMC**'s impeller castings exhibited shrink porosity and voids in the hub when machined at the customer's facility; thus, the riser at the hub area required redesign.

J. WALTER MILLER COMPANY

The initial design, prior to the use of [QuikCAST](#) software, led to the addition of a core in the hub, to reduce the amount of liquid metal required to feed the hub during solidification, showing no defect after boring. However, a new defect began to appear in the wear ring section of the casting.

At this time, [JWMC](#) decided to explore the use of [ESI's QuikCAST](#) casting software, enabling the simulation of the entire casting process from filling to solidification including defects prediction, to determine the cause of this frustrating new defect. Thanks to [QuikCAST](#), [JWMC](#) was able to find a new design configuration eliminating the shrink during machining. As a result, [QuikCAST](#) enabled [JWMC](#) to reduce the number of iterations required to reconfigure patterns, reduce porosity in finished castings and explore opportunities for yield improvement. [JWMC's](#) customer also witnessed a dramatic reduction of scrap in the machining process, which contributed to large cost savings for both the customer and [JWMC](#).

*"This problem would have taken about 12 weeks and \$6,000 in pattern changes plus countless hours of machine time to solve using conventional trial and error methods", declared **Dan Rudolph**, Quality Engineer at J. Walter Miller Company. "With QuikCAST, we can easily solve similar problems in 2 weeks and produce a good pattern the first time. We have used simulation on about 20 parts to date and the simulation results are similar to what we see in the shop."*



On the left: Closed riser and cored hub design – Shrink pocket shown in wear ring.

On the right: Open riser, solid hub design – No shrink pocket in wear ring.

To read the full story about J. Walter Miller Company and ESI, go to: <http://www.esi-group.com/casting/quikcast/success-stories>

For more information on ESI's Casting Simulation Suite, please visit: <http://www.esi-group.com/products/casting>



J. WALTER MILLER COMPANY

For more ESI news, visit: <http://www.esi-group.com/newsroom>

About ESI Group

[ESI](#) is a pioneer and world-leading solution provider in virtual prototyping that takes into account the physics of materials. [ESI](#) has developed an extensive suite of coherent, industry-oriented applications to realistically simulate a product's behavior during testing, to fine-tune manufacturing processes in accordance with desired product performance, and to evaluate the environment's impact on performance. [ESI](#)'s solutions fit into a single collaborative and open environment for End-to-End Virtual Prototyping, thus eliminating the need for physical prototypes during product development. The company employs over 750 high-level specialists worldwide covering more than 30 countries. [ESI Group](#) is listed in compartment C of NYSE Euronext Paris. For further information, visit www.esi-group.com.